1 UNIT

Large numbers and operations on them

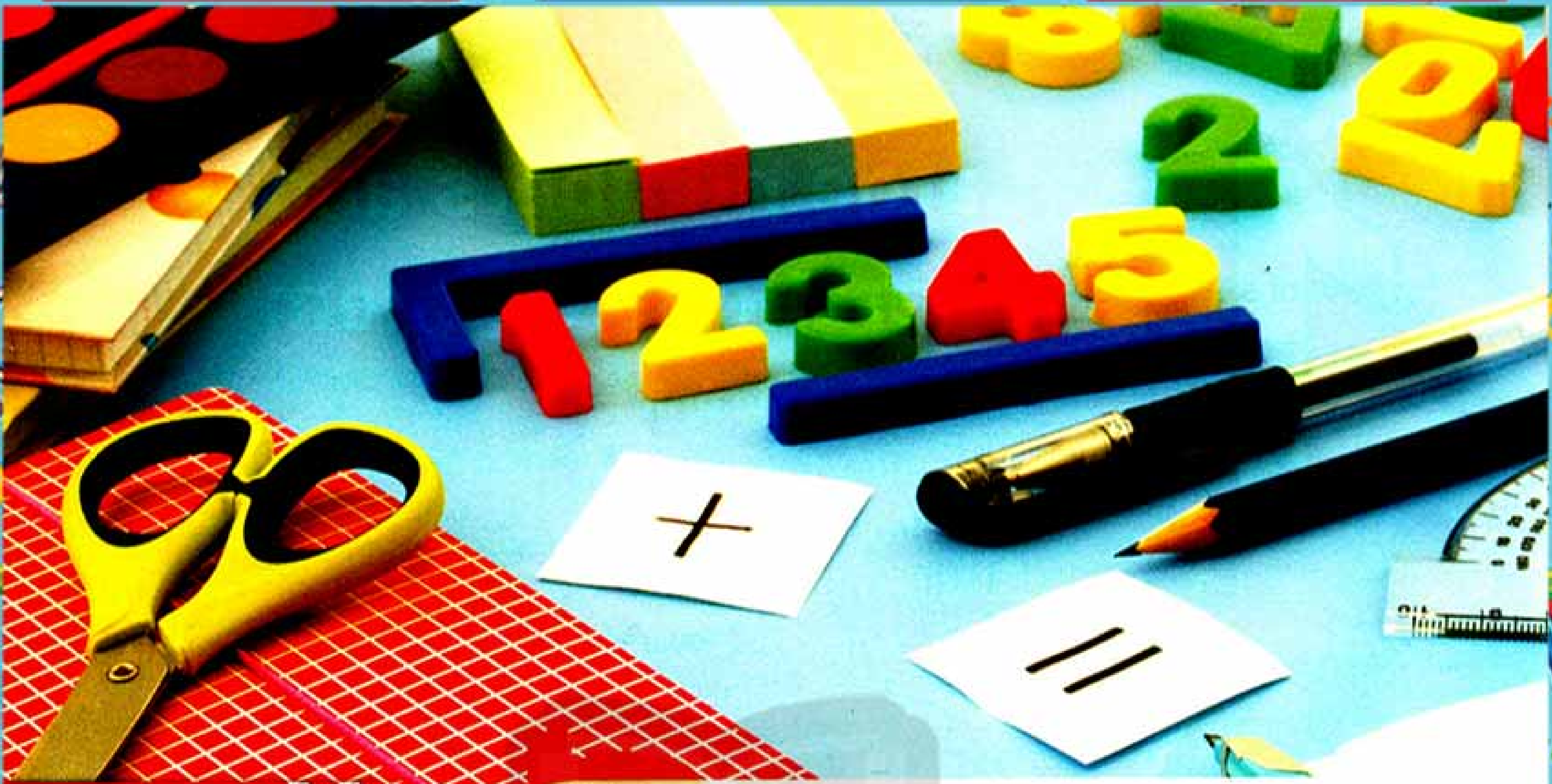
Lessons of the unit :

1. Hundred thousands.
2. Millions.
3. Milliards (Billions).

4(A). Adding and subtracting large numbers.
4(B). Multiplying a whole number by another.
4(C). Dividing a whole number by another.

- Activities and general exercise from the school book.





LESSON 1 Hundred thousands

We have learned before the numbers up to 5-digit numbers and we knew that 99 999 "ninety-nine thousand , nine hundred and ninety-nine" is the greatest 5-digit number.

Think .... Are there any numbers more?

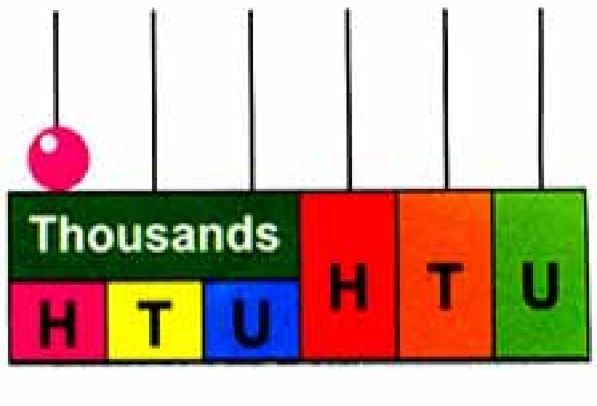
To answer this question we search for a number just after 99 999 , then :
The number just after 99 999 is 99 999 + 1 and we can find it as follows :

$$\begin{array}{r} \scriptstyle{1\ 1\ 1\ 1} \\ 9\ 9\ 9\ 9\ 9 \\ +\quad\quad\quad 1 \\ \hline 10\ 0\ 0\ 0\ 0 \end{array}$$

it is read as → "One hundred thousand"

Thousands					
H	T	U	H	T	U
1	0	0	0	0	0

and we can represent it on the abacus as the shown figure :



The value and the place value

The value of each digit in any number depends on its place in this number.

For example : **Notice the value of each digit in the number 357 582 :**

3 is in the hundred thousands place	5 is in the ten thousands place	7 is in the thousands place	5 is in the hundreds place	8 is in the tens place	2 is in the units place
3	5	7	5	8	2
Its value is 300 000	Its value is 50 000	Its value is 7 000	Its value is 500	Its value is 80	Its value is 2

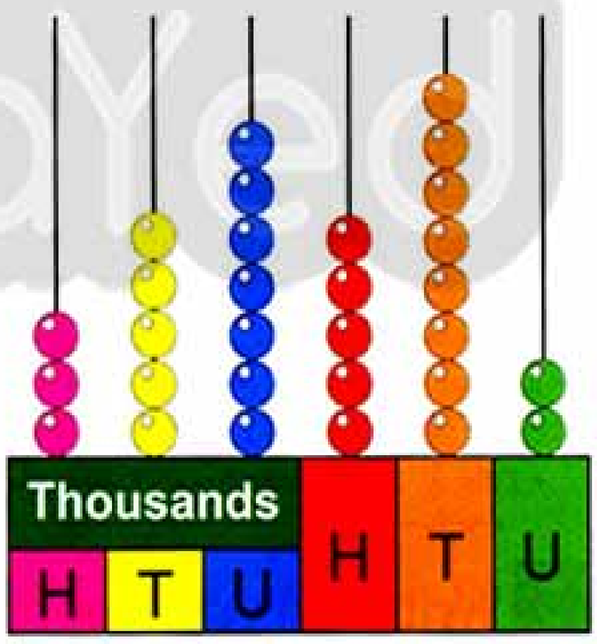
The different forms of writing number

- **Standard form :** 357 582
- **Expanded form :** 300 000 + 50 000 + 7 000 + 500 + 80 + 2
- **Word form :**

Three hundred fifty-seven thousand, five hundred and eighty-two.

Or 357 thousand and 582

- We can represent it on the abacus as in the opposite figure :



Notice that :

- 100 000 is the smallest 6-digit number.
- 999 999 is the greatest 6-digit number.

Note

To remember how to compare between two numbers, return to the previous part revision.

EXERCISE 1

Hundred thousands

From the school book

1 Complete the table as in the example :

	Number	Thousands H	Thousands T	Thousands U	H	T	U
Ex	543 127	5	4	3	1	2	7
a	478 621	....	....	....	....	....	....
b	670 345	....	....	....	....	....	....
c	100 064	....	....	....	....	....	....
d	78 539	....	....	....	....	....	....
e	58 002	....	....	....	....	....	....

2 Write the place value of the circled digit in each number as in the example :

Example

- (7)89 361 → Hundred thousands
- 2(5)250 → thousands

a 8(9)6,325 → ....

b (2)0 561 → ....

c 78,(0)92 → ....

d 156 2(3)9 → ....

e 6(5) 810 → ....

3 Write the value of the circled digit in each number as in the example :

Example

- 56(7) 211 → 7 000
- 1(0)2 421 → 0

a 157 3(4)2 → ....

b 2(5) 371 → ....

c 543(0)92 → ....

d 430 08(2) → ....

e (4)67 900 → ....

f 2(3)0 045 → ....

4 **Underline the number in digits expressing the one in words as the example :**

Example

• Three hundred thousand, seven hundred and eighty-two.

(30 782 or 307 082 or 330 782 or 300 728)

a Two hundred seventy-eight thousand , six hundred and twenty-eight.

(278 682 or 278 628 or 278 862 or 287 628)

b Seventy thousand , five hundred and ninety-three.

(70 593 or 700 593 or 59 370 or 750 093)

c Six hundred three thousand and eight.

(600 308 or 600 038 or 60 308 or 603 008)

d Two hundred thousand , seven hundred and two.

(200 720 or 200 702 or 200 207 or 270 000)

e One hundred seventy-nine thousand and twelve.

(179 012 or 179 120 or 197 012 or 179 102)

5 **Read the following numbers and write it in letters (word form) as in the example :**

Example

• 325 741

Three hundred twenty-five thousand , seven hundred and forty-one.

a 452 710 ....

b 531 497 ....

c 210 000 ....

d 740 740 ....

e 308 001 ....

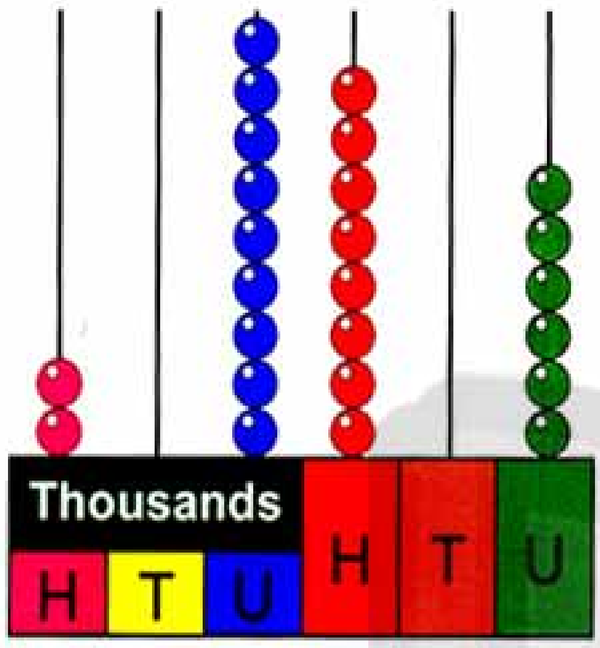
f 300 418 ....

g 85 069 ....

Lesson 1

6 Write the number in digits (standard form) and in letters (word form) as in the example :

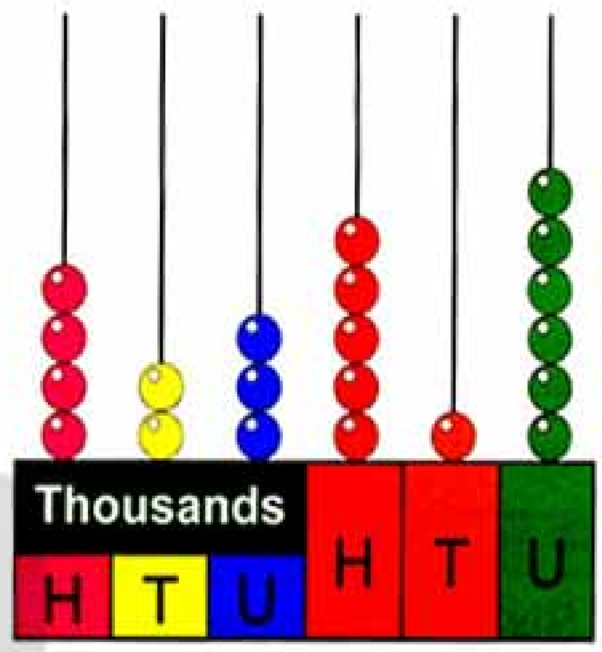
Example



209 806

Two hundred nine thousand, eight hundred and six.

a

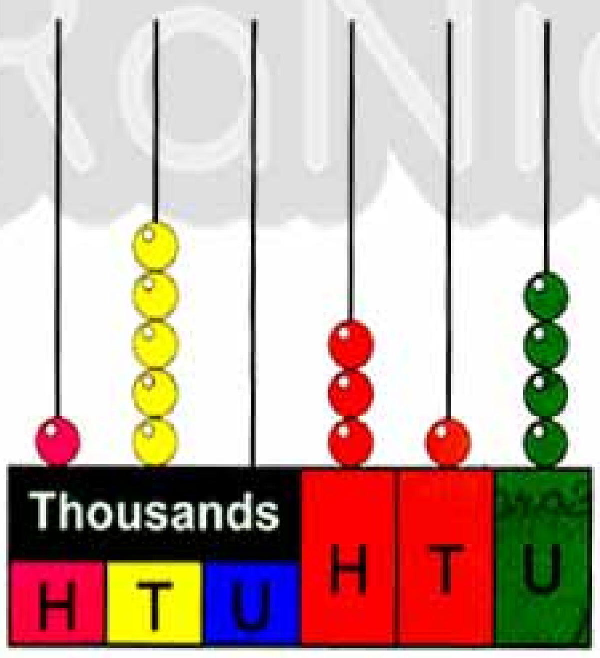


....

....

....

b

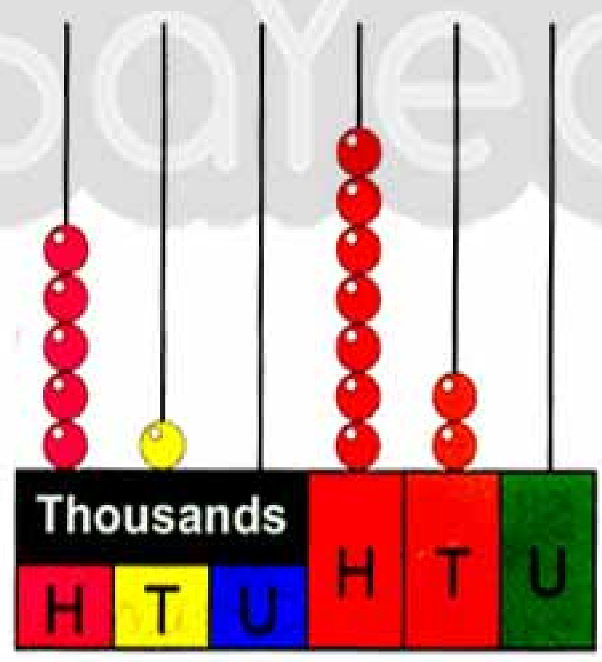


....

....

....

c



....

....

....

7 Complete as in the example :

Example

- 243 675 = 243 000 + 675
  = 200 000 + 40 000 + 3 000 + 600 + 70 + 5

a 516 853 = 516 000 + 853

= 500 000 + ... + ... + ... + ... + ...

b 298 676 = 298 000 + ...

= .... + ... + ... + ... + ... + ...

c 126 459 = ... + 459

= .... + 9

d 35 608 = ... + 608

= ....

e 130 460 = ... + ...

= ....

8 Join the cards with equal numbers :

710 710

1 710 + 70 000

710 + 71 000

710 + 710 000

71 710

10 + 700 + 710 000

10 + 700 + 71 000

9 Complete as in the example :

Example

- 23 800 = 238 hundreds.
- 750 hundreds = 75 thousands.

a 56 000 = ………………… thousands.

b 280 000 = ………………… hundreds.

c 25 600 tens = ………………… thousands.

d 300 thousands = ………………… hundreds.

e 55 thousands = ………………… hundreds.

f 850 thousands = ………………… hundreds.

10 Put [< , > or =] :

a 233 467 ◯ 233 164

b 437 786 ◯ 437 876

c 345 678 ◯ 340 678

d 132 045 ◯ 93 245

e 581 205 ◯ 85 thousands and 205

f 275 thousands and 6 ◯ 275 600

g 7 500 hundreds ◯ 750 thousands

h One hundred thousand ◯ 99 999

i Three hundred twenty-six thousand, five hundred and forty ◯ 326 450

j 401 017 ◯ four hundred one thousand and seventeen

11 Write the greatest and the smallest number that can be formed from the number cards in each of the following as the example :

Example

3 1 7 0 5 9

- The greatest number is 975 310
- The smallest number is 103 579

a 6 2 8 5 1 7
- The greatest number is ....
- The smallest number is ....

b 4 1 5 3 2 6
- The greatest number is ....
- The smallest number is ....

c 5 0 8 3 7 2
- The greatest number is ....
- The smallest number is ....

d 3 3 2 6 7 7
- The greatest number is ....
- The smallest number is ....

12 Complete in the same pattern as in the example :

Example

• 932 842 , 942 842 , 952 842 , 962 842 , 972 842

a 710 654 , 720 654 , 730 654 , ... , ...

b 60 000 , 160 000 , 260 000 , ... , ...

c 420 300 , 410 300 , 400 300 , ... , ...

d 100 568 , 100 578 , 100 588 , ... , ...

e 250 879 , 250 779 , 250 679 , ... , ...

13 Underline the closest number to 100 000 in each case as in the example :

Example

90 000 or 109 000

a 80 000 or 125 000

b 101 000 or 100 900

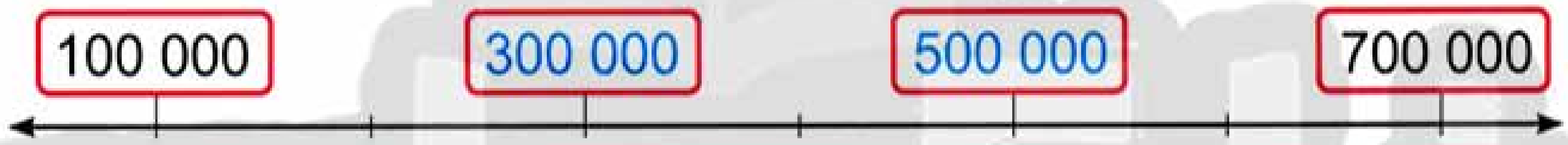
c 100 500 or 99 000

d 200 000 or 90 000

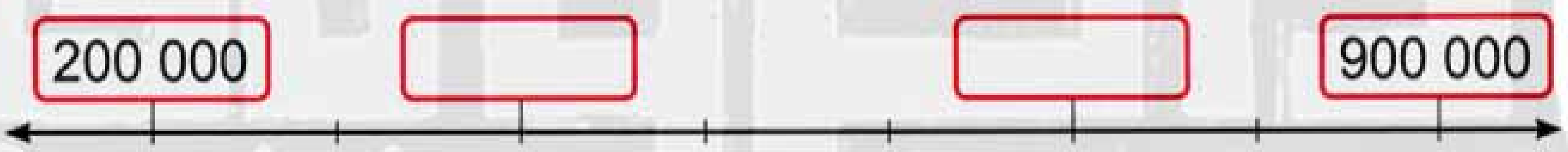
---

14 Write the missing numbers in the blanks on the number line as in the example :

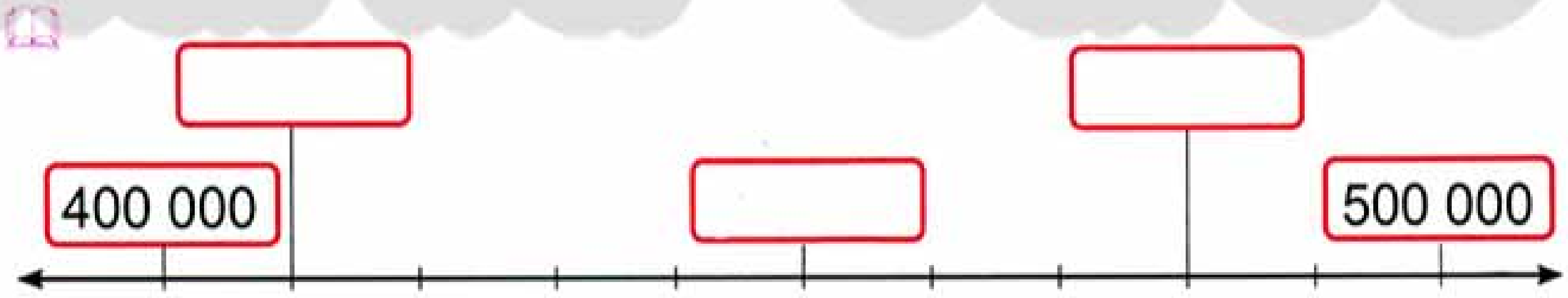
Example



a



b



c



Think and answer

Write each of the following numbers :

a The greatest 5-digit number.

b The greatest number formed from 6 digits.

c The smallest number formed from 6 digits.

d The greatest number formed from 6 different digits.

e The smallest number formed from 6 different digits.

f The greatest even number formed from 6 different digits.

g The smallest even number formed from 6 different digits.

h The greatest odd number formed from 6 different digits.

i The smallest odd number formed from 6 different digits.

j The greatest different 6-digit number and their sum is 15

k The smallest different 6-digit number and their sum is 17

l The greatest different 6-digit number and the sum of its units and tens digits is 7

m The smallest different 6-digit number and the sum of its units and tens digits is 7



LESSON 2 Millions

Millions

We knew that :

999 999 is the greatest 6-digit number , then the number just after 999 999 is 999 999 + 1 = 1 000 000 which is the smallest 7-digit number.

We read it as "one million".

Millions			Thousands			H	T	U
H	T	U	H	T	U			
		1	0	0	0	0	0	0

Ten millions

Since 9 999 999 is the greatest 7-digit number, then the number just after it is 9 999 999 + 1 = 10 000 000 which is the smallest 8-digit number.

We read it as "ten million".

Millions			Thousands			H	T	U
H	T	U	H	T	U			
	1	0	0	0	0	0	0	0

Hundred millions

Since 99 999 999 is the greatest 8-digit number, then the number just after this number is 99 999 999 + 1 = 100 000 000 which is the smallest 9-digit number.
We read it as "one hundred million".

Millions			Thousands					
H	T	U	H	T	U	H	T	U
1	0	0	0	0	0	0	0	0

The value and the place value

The value of each digit in any number depends on its place in the number.

For example :

Notice the value of the digits 5 , 6 and 9 in the number 569 872 134 :

- 5 is in the hundred millions place → Its value is 500 000 000
- 6 is in the ten millions place → Its value is 60 000 000
- 9 is in the millions place → Its value is 9 000 000

5 6 9 872 134

The different forms of writing number

- **Standard form :** 569 872 134
- **Expanded form :**

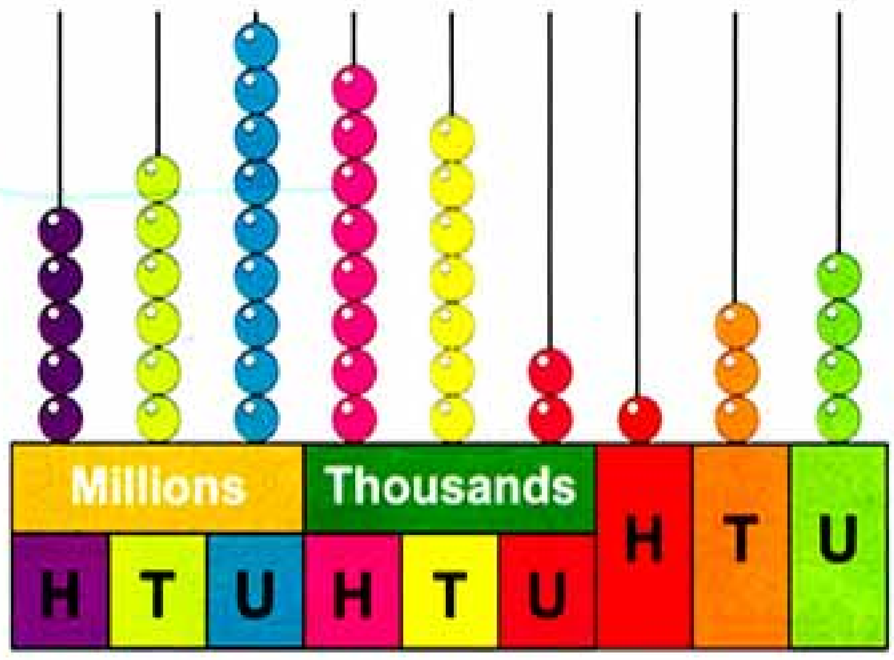
500 000 000 + 60 000 000 + 9 000 000 + 800 000 + 70 000 + 2 000 + 100 + 30 + 4

- **Word form :** Five hundred sixty-nine million , eight hundred seventy - two thousand , one hundred and thirty-four

Or 569 million , 872 thousand and 134

Lesson 2

- We can represent it on the abacus as in the opposite figure.



Remarks

1. $\frac{1}{4}$ million = 250 000
2. $\frac{1}{2}$ million = 500 000
3. $\frac{3}{4}$ million = 750 000

EXERCISE 2

Millions

From the school book

1 Complete the table as in the example :

	Number	Millions			Thousands			H	T	U
		H	T	U	H	T	U			
Ex	604 453 987	6	0	4	4	5	3	9	8	7
a	714 326 518	....	....	....	....	....	....	....	....	....
b	753 009 300	....	....	....	....	....	....	....	....	....
c	7 354 621	....	....	....	....	....	....	....	....	....
d	8 000 300	....	....	....	....	....	....	....	....	....
e	923 508	....	....	....	....	....	....	....	....	....

2 Write the value of the underlined digit according to its place in the number as in the example :

Example

- 47 209 531 → 40 000 000

a 58 486 098 → ....

b 62 478 300 → ....

c 24 041 683 → ....

d 41 691 403 → ....

e 669 084 422 → ....

f 30 303 333 → ....

g 623 102 481 → ....

h 5 555 555 → ....

3 Choose the correct answer as in the example :

Example

- The place value of the digit 3 in the number 53 421 900 is ....
  (thousands or millions or hundred millions or hundred thousands)
- The value of the digit 5 in the number 452 008 970 is ....
  (5 millions or 5 thousands or 5 ten millions or 5 hundred millions)

Lesson 2

a The place value of the digit 2 in the number 245 080 701 is ....

(millions or ten millions or hundred millions or hundred thousands)

b The place value of the digit 8 in the number 8 235 001 is ....

(thousands or hundred thousands or millions or ten millions)

c The place value of the digit 6 in the number 64 579 328 is ....

(millions or hundred thousands or ten millions or hundred millions)

d The value of the digit 4 in the number 4 536 789 is ....

(4 000 000 or 4 000 or 40 000 or 40 000 000)

e The value of the digit 9 in the number 945 200 300 is ....

(9 000 000 or 900 000 000 or 90 000 000 or 900 000)

f The value of the digit 5 in the number 2 456 300 is ....

(5 millions or 50 millions or 50 thousands or 500 thousands)

g The value of the digit 7 in the number 278 554 321 is ....

(7 millions or 70 millions or 700 millions or 7000 millions)

4 Complete as in the following example :

Example

- 7 391 658 = 7 000 000 + 300 000 + 90 000 + 1 000 + 600 + 50 + 8
- 32 450 489 = 30 000 000 + 2 000 000 + 400 000 + 50 000 + 400 + 80 + 9

a 6 548 423 = ... + ... + ... + ... + ... + ... + ...

b 35 912 450 = ... + ... + ... + ... + ... + ... + ...

c 687 510 230 = ... + ... + ... + ... + ... + ... + ...

d .... = 1 000 000 + 500 000 + 80 000 + 2 000 + 900 + 40 + 1

e .... = 40 000 000 + 7 000 000 + 300 000 + 70 000 + 1 000 + 600 + 5

f .... = 70 000 000 + 30 000 + 4 000 + 30 + 1

g .... = 500 000 000 + 1 000 000 + 500 000 + 80 000 + 2 000 + 900 + 40 + 1

5 Read the following numbers and complete as in the example :

Example

- 532 610 748 ⟶ 532 million , 610 thousand and 748

a 564 253 601 ⟶ .... million , ... thousand and ....

b 2 687 570 ⟶ .... million , ... thousand and ....

c 73 421 685 ⟶ .... million , ... thousand and ....

d 600 400 200 ⟶ .... million , ... thousand and ....

e 809 005 000 ⟶ .... million and .... thousand

f 7 000 005 ⟶ .... million and ....

6 Complete as in the example :

Example

- 5 018 215 = 5 million + 18 thousand + 215

a .... = 840 million + 627 thousand + 254

b .... = 6 million + 412 thousand + 576

c .... = 9 million + 18 thousand + 72

d .... = 4 million + 4 thousand + 4

e .... = 304 million + 24

7 Complete as in the example :

Example

- 95 240 357 = 95 000 000 + 240 000 + 357
- 852 003 405 = 852 000 000 + 3 000 + 405

a 5 984 371 = ... + ... + ...

b 23 600 156 = ... + ... + ...

c 821 640 906 = ... + ... + ...

d 10 800 900 = ... + ... + ...

e 6 000 834 = ... + ... + ...

f .... = 6 000 000 + 427 000 + 152

g .... = 1 000 000 + 230 000 + 7

h .... = 25 000 000 + 50 000 + 23

i .... = 302 000 000 + 4 000 + 5

j .... = 186 000 000 + 25

8 Join the two cards which express the same number :

1 170 650	One million , one hundred and fifty thousand , six hundred and seventy.
1 150 760	One million , one hundred and seventy thousand , six hundred and fifty.
1 170 560	One million , one hundred and fifty thousand , seven hundred and sixty.
1 150 670	One million , one hundred and seventy thousand , five hundred and sixty.

9 Complete the following table :

	Number in digits (Standard form)	Number in letters (Word form)
a	....	Five million , nine hundred two thousand , four hundred and thirty-one.
b	....	Twenty-four million , thirty thousand , two hundred and five.
c	....	One hundred forty-seven million , two hundred thousand , four hundred and sixty-five.
d	7 940 500	....
e	17 246 792	....
f	816 201 480	....

10 Put [< , > or =] :

a 37 458 210 ◯ 73 519 456

b 9 854 705 ◯ 11 012 314

c 170 258 214 ◯ 170 258 213

d 571 600 254 ◯ 571 600 329

e 100 thousand ◯ 100 ten thousand

f 5 000 thousand ◯ 5 million

g 3 million , 63 thousand and 217 ◯ 3 063 217

h 94 132 740 ◯ 94 million , 132 thousand and 74

Lesson 2

11 Arrange in an ascending order :

a 6 362 012 , 3 954 658 , 102 245 201 and 12 158 008

The order is : .... , ... , ... and ....

b 7 542 684 , 7 005 325 , 7 452 328 and 6 980 017

The order is : .... , ... , ... and ....

c 31 107 320 , 32 745 528 , 37 518 764 and 35 657 066

The order is : .... , ... , ... and ....

d 8 198 214 , 888 254 , 1 000 000 and 987 009

The order is : .... , ... , ... and ....

12 Arrange in a descending order :

a 833 322 165 , 833 400 001 , 833 322 156 and 83 987 654

The order is : .... , ... , ... and ....

b 94 987 145 , 965 852 664 , 9 325 997 and 9 654 784

The order is : .... , ... , ... and ....

c 24 571 207 , 24 571 702 , 724 571 072 and 24 571 270

The order is : .... , ... , ... and ....

d 70 254 999 , 702 548 , 7 025 963 and 9 658 458

The order is : .... , ... , ... and ....

13 Complete using suitable numbers :

a 56 340 608 $<$ .... $<$ 56 430 608

b 61 708 425 < .... < 61 807 425

c 500 600 700 < .... < 500 700 600

d 43 051 289 < .... < 430 051 278

---

14 Which of the following numbers is the closest to :

a One million (909 999 or 990 999 or 900 009)

b Five million (4 900 000 or 5 000 900 or 4 999 000)

c Five hundred million (500 000 900 or 500 005 000 or 499 999 000)

d One hundred million (110 000 000 or 100 900 000 or 101 000 000)

---

15 Write the following sums in digits :

a $\frac{1}{4}$ million pound = ...

b $\frac{1}{2}$ million pound = ...

c $\frac{3}{4}$ million pound = ...

d $1\frac{1}{2}$ million pound = ...

e $5\frac{3}{4}$ million pound = ...

Think and answer

1 Find two 9-digit numbers with the difference between them is one million.

[ ] and [ ]

---

2 Find two 9-digit numbers with the difference between them is one thousand.

[ ] and [ ]



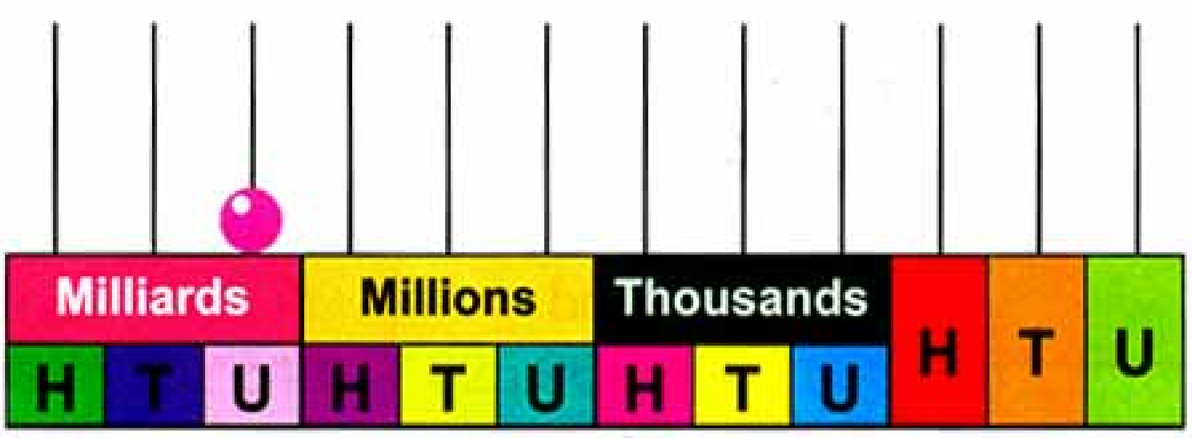
LESSON 3 Milliards (Billions)

- We knew that : 999 999 999 is the greatest 9-digit number.

  Then the number just after 999 999 999 is 999 999 999 + 1 = 1 000 000 000 which is the smallest 10-digit number.

- We read it as «Milliard or Billion»
- We can represent it on the abacus as shown in the following figure :

Milliards			Millions			Thousands					
H	T	U	H	T	U	H	T	U	H	T	U
		1	0	0	0	0	0	0	0	0	0



Different forms of writing number

For example : The number 367 892 153 428

- **Standard form :** 367 892 153 428

- **Expanded form :** 300 000 000 000 + 60 000 000 000 + 7 000 000 000 + 800 000 000 + 90 000 000 + 2 000 000 + 100 000 + 50 000 + 3 000 + 400 + 20 + 8

- **Word form :** Three hundred sixty-seven milliard , eight hundred ninety-two million , one hundred fifty-three thousand , four hundred and twenty-eight

  Or 367 milliard , 892 million , 153 thousand and 428

Remarks

1. $\frac{1}{4}$ milliard = 250 000 000
2. $\frac{1}{2}$ milliard = 500 000 000
3. $\frac{3}{4}$ milliard = 750 000 000

Summary of the large numbers

Reading large numbers

For example : read the number **56208196318**

1. To read any large number divide its digits into groups called (periods). Each of these periods (three digits) is seperated by commas from the right.

56 , 208 , 196 , 318

2. Name the first period from the right "Units" , the second "Thousands" , the third "Millions" and the fourth "Milliards".

Notice that : Each period has units , tens and hundreds

Milliards period	Millions period	Thousands period	Units period
56 ,	208 ,	196 ,	318

3 Read the number in each period followed by its name starting from the left :

> Fifty six milliard , two hundred eight million , one hundred ninety six thousand , three hundred and eighteen.

The place value

The place-value chart can help you to understand the value and place value of each digit in a number knowing that each place value is ten times the place value to the right , therefore the value of a digit depends on its position in the number.

For example : we can use that with the number : 341 690 357 825 as follow :

Place-Value Chart											
Milliards Period			Millions Period			Thousands Period			Units Period		
Hundreds	Tens	Units	Hundreds	Tens	Units	Hundreds	Tens	Units	Hundreds	Tens	Units
3	4	1	6	9	0	3	5	7	8	2	5

	3 Hundred thousands	5 Ten thousands	7 Thousands
	3 × 100 000	5 × 10 000	7 × 1000
The value	300 000	50 000	7 000

Multiply the digit by its place value to find the value of each digit.

EXERCISE 3

Milliards (Billions)

From the school book

1 Write the value of the underlined digit according to its place in the number :

a 6 200 400 173 → ....

b 8 121 400 500 → ....

c 9 241 530 400 → ....

d 53 987 140 111 → ....

e 1 555 612 182 → ....

f 298 900 723 597 → ....

2 Complete :

a The place value of the digit 7 in the number 7 321 521 800 is ....

b The place value of the digit 0 in the number 5 321 041 758 is ....

c The place value of the digit 2 in the number 9 152 747 180 is ....

d The place value of the digit 8 in the number 4 821 400 006 is ....

3 Read the following numbers and complete as in the example :

Example

9 532 104 237 → 9 milliard , 532 million , 104 thousand and 237

a 7 101 264 372 → .... milliard , ... million , ... thousand and ....

b 8 719 645 302 → .... milliard , ... million , ... thousand and ....

c 2 100 931 000 → .... milliard , ... million , ... thousand.

d 6 539 006 475 → .... milliard , ... million , ... thousand and ....

e 2 000 120 888 → .... milliard , ... thousand and ....

f 2 163 900 800 → .... milliard , ... million , ... thousand and ....

g 32 000 000 007 → .... milliard and ....

Lesson 3

4 Complete :

	Number in digits (Standard form)	Number in letters (Word form)
a	....	Four milliard , one hundred forty-seven million , two hundred thousand , four hundred and sixty-five.
b	....	Seven milliard , four hundred eighty-one thousand , five hundred and fifty.
c	....	One milliard , eight hundred nine million and six hundred thousand.
d	3 354 604 159	....
e	8 357 950 501	....
f	517 252 901	....

5 Join the cards that express the same number :

3 000 200 500

3 million , 2 thousand and 500

3 million , 200 thousand and 500

3 milliard , 200 thousand and 500

3 002 500

3 000 000 + 2 000 + 500

3 200 500

6 Choose the correct answer between brackets :

a 6 milliard , 47 million and 257 = ...

(647 000 257 or 6 047 000 257 or 647 257 or 6 047 257 000)

b 3 000 millions = ...

(3 000 000 or 30 000 000 or 3 000 000 000 or 300 000 000)

c One milliard is the smallest number formed from .... digits.

(7 or 10 or 9 or 12)

d The greatest 10-digit number formed from the digits from 0 to 9 is ....

(1 234 567 890 or 9 087 654 321 or 9 876 543 210 or 9 876 543 201)

---

7 Put [< , > or =] :

a 9 341 200 519 ◯ 9 341 200 509

b 1 307 458 210 ◯ 1 307 548 210

c 6 420 111 715 ◯ 642 011 171

d 7 100 600 200 ◯ 8 milliard

e One milliard ◯ 999 999 999

f 3 milliard ◯ 300 millions

g 7 000 millions ◯ 7 milliard

h 25 milliard , 367 thousand ◯ 25 367 000

i 9 000 000 000 + 60 000 000 + 50 000 + 2 ◯ 9 652

j Ninety-seven million , three hundred and one ◯ 90 000 000 + 7 000 000 + 3 000 + 1

Lesson 3

8 Arrange the following numbers in an ascending order :

a 3 822 839 200 , 100 209 891 , 17 933 222 918 and 1 321 412 821

The ascending order is : .... , ... , ... and ....

b 4 213 521 021 , 4 213 421 021 , 4 223 421 020 and 4 203 521 022

The ascending order is : .... , ... , ... and ....

c 5 381 521 600 , 5 831 521 200 , 5 381 520 700 and 5 380 721 600

The ascending order is : .... , ... , ... and ....

---

9 Arrange the following numbers in a descending order :

a 8 616 321 424 , 8 161 342 321 , 9 616 221 414 and 8 616 400 424

The descending order is : .... , ... , ... and ....

b 3 247 000 721 , 4 247 000 000 , 3 000 247 721 and 3 248 721 000

The descending order is : .... , ... , ... and ....

c 4 321 782 332 , 14 320 782 332 , 10 321 782 333 and 5 321 782 332

The descending order is : .... , ... , ... and ....

---

10 Which of the following numbers is the closest to :

a One milliard (1 000 000 090 or 999 999 990 or 1 100 000 000)

b Two milliard (2 000 000 020 or 299 999 999 or 1 999 999 900)

11 **Write the following sums of money in digits :**

a 📖 $\frac{1}{4}$ milliard pound = ...

b 📖 $\frac{1}{2}$ milliard pound = ...

c 📖 $\frac{3}{4}$ milliard pound = ...

d $2\frac{1}{4}$ milliard pound = ...

e $6\frac{3}{4}$ milliard pound = ...

Think and answer

1 **Complete with a suitable number :**

a 1 452 000 999 $>$ .... $>$ 1 451 999 001

b 104 847 125 $<$ .... $<$ 999 999 999

c 25 612 314 020 $>$ .... $>$ 25 612 314 017

2 **Find two 10-digit numbers with the difference between them is :**

a 📖 One milliard.

b Ten million.

c 📖 One million.

d One hundred thousand.

e 📖 One thousand.

3 📖 **Express the following numbers in terms of million :**

a 2 milliard

b $3\frac{1}{2}$ milliard

c 10 milliard



LESSON 4 (A) Adding and subtracting large numbers

To add or subtract numbers, always start by adding or subtracting the units digits, next add or subtract tens digits , then hundreds digits, and so on as in the following examples :

Example

a

```
   1 1 1 1 1
  3 2 6 5 4 1 9
+ 7 3 7 6 8 8 3
---------------
1 0 6 4 2 3 0 2
```

b

```
    14 16
  6 4 6 12 5 10
  7 5 7 2 6 0 1
-   5 8 4 1 9 1
---------------
  6 9 8 8 4 1 0
```

c 3 5 2 1 7 6 8 + 3 8 5 4 3 6 = 3 9 0 7 2 0 4

d 8 1 3 9 4 8 3 – 6 3 8 5 6 5 9 = 1 7 5 3 8 2 4

EXERCISE 4

Adding and subtracting large numbers

📖 From the school book

1 Find the result, then use the calculator to check your answer :

a 📖
  3 7 8 5 4 2 1
+   2 1 0 2 3 4
....

b
  8 9 5 4 6 2
− 6 3 5 2 0 1
....

c 📖
  4 8 9 1 2 4 3
+ 3 1 0 2 3 1 5
....

d
  9 6 9 7 8 3 4
− 8 3 4 7 6 1 2
....

e 📖
  1 2 5 6 3 1 2
+ 8 3 4 1 2 8 7
....

f 📖
  2 2 5 6 9 1 2
− 1 1 4 5 8 1 0
....

g
  5 1 7 3 0 8 4
+ 2 5 4 0 7 3 5
....

h
  9 6 7 2 5 4 7
− 5 9 6 7 0 8 3
....

i
  1 6 2 5 4 3
+ 4 7 8 5 0 4
....

j
  7 4 2 3 8 5 6
− 5 0 1 8 7 3 9
....

k
  4 6 7 9 6 5 4
+ 4 7 9 6 7 5 8
....

l
  7 4 3 7 4 9 8
− 7 3 8 1 2 9 9
....

m
    6 5 8 8 7 6
+ 6 7 3 4 5 3 8
....

n
  3 2 5 5 2 0 2
− 2 0 2 8 1 3 9
....

o
  9 3 0 2 1 9 8
+ 1 7 4 8 3 2 7
....

p
  6 5 4 3 0 0 0
− 4 2 4 2 7 8 8
....

q 📖
  8 7 5 2 0 1 3
+   4 3 9 8 1 5
....

r
  7 0 0 8 1 9 3
−   8 1 9 4 8 5
....

s
  2 5 4 1 7 2 3
+ 3 6 1 2 1 2 7
+ 1 2 5 0 8 6 9
....

t 📖
  9 0 0 0 1 0 0
− 8 0 8 7 0 8 9
....

u
  8 0 0 0 0 0 0
− 3 5 1 4 6 7 9
....

Lesson 4(A)

2 **Calculate, then use the calculator to check your answer :**

a 847 215 + 204 684 = ...

b 9 647 800 – 7 531 203 = ...

c 547 643 + 3 849 768 = ...

d 6 904 657 – 6 346 412 = ...

e 5 208 107 + 9 274 305 = ...

f 17 320 458 – 351 792 = ...

g 9 312 000 – 9 211 775 = ...

h 📖 9 887 000 – 7 115 306 = ...

i 3 246 239 + three hundred thousands ....

j 7 279 324 – 5 millions = ...

k 2 984 362 + 6 millions = ...

l 467 024 – 90 thousands = ...

m 94 763 + 134 599 + 8 979 649 = ...

n (3 217 907 + 4 814 256) + 5 152 917 = ...

o (3 280 075 + 5 909 138) – 7 657 249 = ...

p (4 512 247 + 5 067 753) – (8 200 105 – 3 489 105) = ...

3 **Put (✓) for the correct statement and (×) for the incorrect one (Correct the incorrect answers) :**

a 8 081 740 – 2 818 503 = 5 236 237 ( )

b 2 564 343 + 1 657 788 = 4 221 131 ( )

c 549 467 – one hundred thousand = 559 467 ( )

d 3 118 741 – 2 567 814 = 550 927 ( )

e 4 351 698 + 756 408 = 5 108 160 ( )

f 6 108 322 – 4 105 634 = 2 020 688 ( )

4 Put [< , > or =] :

a 8 083 106 – 741 315 ◯ 7 341 791

b 999 999 + 1 ◯ 1 million

c 1 000 001 – 1 ◯ 1 ten million

d 44 302 + 5 698 ◯ 50 thousands

e 587 813 + 6 541 389 ◯ 9 875 941 – 2 746 739

f 7 845 200 – 5 643 522 ◯ 2 145 672 + 403 562

g 5 984 531 + 4 403 564 ◯ the greatest 7 digit number

h 7 342 109 – 6 318 553 ◯ the smallest 7 different digit number

5 Complete :

a 3 256 712 + ... = 7 807 300

b .... + 7 618 149 = 10 869 183

c 9 256 000 – .... = 5 312 989

d 3 108 721 – .... = 2 857 101

e .... – 4 808 199 = 3 121 703

f .... – 7 218 305 = 6 977 455

6 Find the number that if :

a 📖 It is subtracted from million , the difference will be 209 312

b It is added to 7 812 159 , the sum will be 8 million.

c 📖 270 408 is subtracted from it , the difference will be 218 200

Lesson 4(A)

7 Find the missing digits :

a

  3 5 6 7 9 8
+ □ □ □ □ □ □
= 9 7 8 4 5 6

b

  5 4 3 8 9 8
− □ □ □ □ □ □
= 2 4 3 5 4 2

c

  □ □ □ □ □ □
+ 1 6 2 5 4 3
= 4 7 8 5 0 4

d

  □ □ □ □ □ □ □
− 8 2 4 6 5 7
= 1 9 9 0 8 2

e

  7 □ 6 5 □ 3
+ 5 8 □ 7 9 8
= 1 □ 5 0 □ 4 □

f

  3 5 □ 2 8 □
− □ □ 5 □ 8 7
= 1 6 0 8 □ 2

g

  4 □ 7 9 □ 3
+ 7 5 □ 9 □
= 5 6 □ 7 4 5

h

  7 □ 8 □ 6 9
+ 2 1 □ 3 □ 5
= □ 6 5 9 5 □

i

  □ 4 0 □ 6 8 □
− 4 □ 3 8 □ 6 5
= 4 3 □ 4 7 □ 5

j

  7 □ 3 5 □ 3 9
− 2 6 □ 9 5 □ □
= □ 3 8 □ 4 8 7

8 Circle the number closest to the correct answer , without performing the operation :

a 478 125 + 537 204 (one million or ten million or one hundred thousand)

b 📖 7 256 312 – 7 056 300 (200 million or 200 thousand or 250 thousand)

c 9 200 274 + 751 404 (one million or ten million or one hundred million)

d 4 325 116 – 4 215 110 (million or 1 thousand or 100 thousand)

e 📖 5 260 180 + 7 985 954 (900 million or milliard or 13 million)

f 📖 8 205 107 – 3 198 119 (8 milliard or 6 milliard or 5 million)

g 2 345 678 + 1 434 678 (3 million or 4 million or one milliard)

h 2 760 300 – 2 650 312 (1 million or one hundred thousand or one milliard)

i 📖 8 400 100 + 2 600 050 (11 million or 7 milliard or 6 milliard)

j 📖 9 575 100 – 4 275 090 (two milliard or 5 million or 850 million)

Real Life Problems

Example

During a year, there were
4 578 984 visitors to the zoo,
in the next year,
there were 3 459 982 visitors.



Calculate the sum of the visitors in the two years.

The sum of the visitors = 4 578 984 + 3 459 982 = 8 038 966 visitors.

a The ministry of Health vaccinated 9 876 543 children last year and 8 456 783 children this year.
Calculate the total number of the vaccinated children.

....

....



b If the fruit exports of a country in a month was 1 342 006 tons and in the second month was 934 567 tons.
Find the total sum of the fruit exports.

....

....



Lesson 4(A)

c If the budget allocated to support drinking water increased in two consecutive years from 270 000 pounds to 750 000 pounds.

Find the amount of the increase.

....

....



d If the budget allocated to support medicine in two consecutive years increased from 4 543 000 pounds to 8 586 000 pounds to preserve the prices of medicine.

Find the amount of the increase.

....

....



e A factory produced 2 987 543 toys in one year. The next year, the factory produced 3 267 594 toys.

Find the difference between the production in the two years.

....

....



f In a year 3 270 624 tourists visited Karnak temple and in the next year 3 795 851 tourists visited it.

Find the difference between them.

....

....



g Ministry of Education bought 2 235 672 computers, 1 989 271 of them were distributed to some schools.



Find the remainder computers

....

....

h If the distance between Cairo and Alexandria is 220 000 m.
Ahmed travelled 135 000 m. form it.



Find the left distance to Alexandria

....

....

i If the income from the advertisements during the African Football Cup of Nations "Angola 2010" for the Egyptian Channel Two was 7 million and eight hundred thousand pounds, for Nile Sports TV was seven hundred thousand pounds and for Youth and Sports Radio Channel was five hundred and eight thousand pounds.



Find the total income acheived by the three channels from the advertisements.

....

....

j Sara had L.E. 2 000 000
She bought a car for L.E. 235 861
and a mobile for L.E. 2 500



Find the remainder money with her.

....

....



LESSON 4 (B) Multiplying a whole number by another

(1) Multiplying by a 1-digit number

Example

Find the product of 57 342 X 4

Solution

- We can find the product of 57 342 × 4 by two methods :

First method

$$\begin{array}{r} 57\,342 \\ \times \quad 4 \\ \hline \end{array} \xrightarrow{\text{Expand}} \begin{array}{r} 50\,000 + 7\,000 + 300 + 40 + 2 \\ \times \quad 4 \\ \hline = 200\,000 + 28\,000 + 1\,200 + 160 + 8 \end{array}$$

Add the results

229 368

We can also write :

$4 \times 57\,342 = 4 \times [50\,000 + 7\,000 + 300 + 40 + 2]$

$= 200\,000 + 28\,000 + 1\,200 + 160 + 8 = 229\,368$

Second method

$$\begin{array}{r} {\scriptstyle 2\,1\,1} \\ 57\,342 \\ \times \quad 4 \\ \hline 229\,368 \end{array}$$

(2) Multiplying by a 2-digit number

Example

Find the product of 365 × 48

Solution

- **We can find the product of 365 × 48 by two methods :**

First method

- Multiply by units : 365 × 8 → 2 9 2 0
- Multiply by tens : 365 × 40 → 1 4 6 0 0
- Add the two products → 1 7 5 2 0

$$\begin{array}{r} 365 \\ \times \quad 48 \\ \hline 2\,920 \\ +\;14\,600 \\ \hline 17\,520 \end{array}$$

Second method

$365 \times 48 = 365 \times [40 + 8]$

$= 365 \times 40 + 365 \times 8$ (carries: 2 2, 5 4)

$= 14\,600 + 2\,920$

$= 17\,520$

EXERCISE 5

Multiplying a whole number by another

From the school book

1 Find the result following the example (use the calculator to check your answer) :

Example

$$354 \times 9 \xrightarrow{\text{Expand}} (300 + 50 + 4) \times 9 = 2\,700 + 450 + 36 \xrightarrow{\text{Add the results}} 354 \times 9 = 3\,186$$

a

$$271 \times 8 \xrightarrow{\text{Expand}} (\ldots + \ldots + 1) \times 8 = \ldots + \ldots + 8 \xrightarrow{\text{Add the results}} 271 \times 8 = \ldots$$

b

$$538 \times 7 \xrightarrow{\text{Expand}} (\ldots + \ldots + 8) \times 7 = \ldots + \ldots + 56 \xrightarrow{\text{Add the results}} 538 \times \ldots = \ldots$$

c

$$7\,346 \times 6 \xrightarrow{\text{Expand}} (\ldots + \ldots + \ldots + 6) \times \ldots = \ldots + \ldots + \ldots + \ldots \xrightarrow{\text{Add the results}} \ldots \times \ldots = \ldots$$

2 Find the result as in the example (use your calculator to check your answer) :

Example

• 4 × 9 768 = 4 × (9 000 + 700 + 60 + 8)
= 36 000 + 2 800 + 240 + 32 = 39 072

a 7 × 254 = 7 × (.............. + ... + 4)
= .... + ... + 28 = ...

b 9 × 784 = ... × (.............. + ... + ...)
= .... + ... + ... = ...

c 6 × 4 259 = 6 × (.............. + ... + ... + 9)
= .... + ... + ... + 54 = ...

3 Find the product as in the example (use your calculator to check your answer) :

Example

$$\begin{array}{r} \scriptstyle 2\ 1\ 2 \\ 5\ 0\ 7\ 2\ 6 \\ \times \quad 4 \\ \hline 2\ 0\ 2\ 9\ 0\ 4 \end{array}$$

a

$$\begin{array}{r} 2\ 3\ 4 \\ \times \quad 2 \\ \hline \dots\dots \end{array}$$

b

$$\begin{array}{r} 5\ 6\ 8 \\ \times \quad 5 \\ \hline \dots\dots \end{array}$$

c

$$\begin{array}{r} 5\ 0\ 0\ 3 \\ \times \quad 7 \\ \hline \dots\dots \end{array}$$

d 📖

$$\begin{array}{r} 7\ 3\ 5\ 4 \\ \times \quad 4 \\ \hline \dots\dots \end{array}$$

e

$$\begin{array}{r} 8\ 3\ 4\ 2 \\ \times \quad 9 \\ \hline \dots\dots \end{array}$$

Lesson 4(B)

f

$$\begin{array}{r} 2\,0\,6\,1 \\ \times \quad 7 \\ \hline \ldots\ldots \end{array}$$

g

$$\begin{array}{r} 8\,3\,2\,0\,4 \\ \times \quad 8 \\ \hline \ldots\ldots \end{array}$$

h

$$\begin{array}{r} 1\,3\,4\,0\,9 \\ \times \quad 7 \\ \hline \ldots\ldots \end{array}$$

i

$$\begin{array}{r} 2\,6\,4\,5\,1\,0 \\ \times \quad 5 \\ \hline \ldots\ldots \end{array}$$

j

$$\begin{array}{r} 3\,6\,0\,5\,4\,2\,1 \\ \times \quad 6 \\ \hline \ldots\ldots \end{array}$$

k

$$\begin{array}{r} 4\,8\,9\,1\,7\,0\,1 \\ \times \quad 8 \\ \hline \ldots\ldots \end{array}$$

4 Find the product as in the example (use your calculator to check your answer) :

Example

1 1 2 2
• 3 4 5 6 7 × 3 = 1 0 3 7 0 1

a 2 784 × 8 = ……………

b 7 385 × 4 = ……………

c 3 478 × 9 = ……………

d 80 032 × 7 = ……………

e 28 531 × 5 = ……………

f 3 892 × 30 = ……………

g 90 763 × 80 = ……………

5 Find the product as in the example (use your calculator to check your answer) :

Example

$$\begin{array}{r} 6\,3\,2 \\ \times \quad 4\,2 \\ \hline 1\,2\,6\,4 \\ +\ 2\,5\,2\,8\,0 \\ \hline 2\,6\,5\,4\,4 \end{array}$$

a

$$\begin{array}{r} 4\,3 \\ \times \quad 2\,4 \\ \hline \ldots\ldots \\ +\ \ldots\ldots \\ \hline \ldots\ldots \end{array}$$

b

$$\begin{array}{r} 2\,8 \\ \times \quad 7\,6 \\ \hline \ldots\ldots \\ +\ \ldots\ldots \\ \hline \ldots\ldots \end{array}$$

c 123 × 15 = ... + ... = ...

d 163 × 82 = ... + ... = ...

e 357 × 49 = ... + ... = ...

f 904 × 53 = ... + ... = ...

g 5467 × 84 = ... + ... = ...

h 6789 × 45 = ... + ... = ...

i 3785 × 17 = ... + ... = ...

j 2009 × 53 = ... + ... = ...

k 7234 × 34 = ... + ... = ...

l 23278 × 49 = ... + ... = ...

m 670021 × 87 = ... + ... = ...

n 475209 × 23 = ... + ... = ...

6 Find the product as in the example (use your calculator to check your answer) :

Example

37 × 59 = 37 × (50 + 9)

= 37 × 50 + 37 × 9

= 1 850 + 333 = 2 183

a 25 × 42 = 25 × (40 + ...)

= 25 × 40 + ... × .... = ... + ... = ...

b 26 × 174 = 26 × (100 + 70 + 4)

= 26 × .... + 26 × .... + 26 × ....

= .... + ... + ... = ...

c 619 × 36 = (.......... + ... + ...) × 36

= .... × .... + ... × .... + ... × ....

= .... + ... + ... = ...

7 Find the result of each of the following :

a 43 × 35 = ...

b 28 × 94 = ...

c 112 × 36 = ...

d 378 × 35 = ...

e 132 × 75 = ...

f 267 × 18 = ...

g 508 × 85 = ...

h 209 × 55 = ...

i 436 × 19 = ...

j 50 × 900 = ... tens

k 30 × 40 = ... hundreds

8 Choose the correct answer between brackets :

a 75 × 23 = ... (1 725 or 1 735 or 1 745)

b 58 × 22 = ... (1 256 or 1 266 or 1 276)

c 116 × 12 = ... (1 382 or 1 392 or 1 372)

d 228 × 24 = ... (5 472 or 5 372 or 5 272)

e 236 × 72 = ... (16 792 or 16 892 or 16 992)

f 368 × 36 = ... (13 148 or 13 248 or 13 348)

9 Put (✓) for the correct statement and (×) for the incorrect one :

a 35 × 11 = 385 ( )

b 86 × 42 = 3 512 ( )

c 67 × 75 = 6 025 ( )

d 118 × 32 = 3 676 ( )

10 Put (<) , (>) or (=) in the blanks :

a 38 × 16 □ 380 × 16

b 36 × 67 □ 63 × 67

c 328 × 64 □ 321 × 58

d 261 tens □ 216 × 10

e 30 × 1 400 □ 42 thousands

f 47 × 88 □ 4 136

g 819 × 74 □ 35 410 + 25 194

h 67 × 609 □ 607 × 69

11 In each of the following , find the missing digits :

a

```
      6 7
  ×   7 4
  -------
    2 □ 8
  + 4 □ 9 0
  ---------
  □ □ □ □
```

b

```
      6 6
  ×   4 3
  -------
    1 □ □
  + □ 6 □ 0
  ---------
  □ □ □ □
```

c

```
      9 1
  ×   6 3
  -------
    □ □ 3
  + □ □ 6 0
  ---------
  □ □ □ □
```

d

```
    2 2 5
  ×   3 7
  -------
  1 □ □ 5
+ □ 7 □ 0
---------
  □ □ □ □
```

e

```
      1 3 4
  ×     7 6
  ---------
      8 □ 4
  + □ 3 □ 0
  -----------
  □ □ □ □ □
```

f

```
    □ 4 5
  ×     7
  -------
  4 5 □ 5
```

Lesson 4(B)

12 Find the product using more than one method as in the example :

Example

$3 \times 11 \times 26$

First method	Second method
$(3 \times 11) \times 26$	$3 \times (11 \times 26)$
$= 33 \times 26$	$= 3 \times 11 \times (20 + 6)$
$= 33 \times (20 + 6)$	$= 3 \times (11 \times 20 + 11 \times 6)$
$= 33 \times 20 + 33 \times 6$	$= 3 \times (220 + 66)$
$= 660 + 198 = 858$	$= 3 \times 220 + 3 \times 66$
	$= 660 + 198 = 858$

a $4 \times 12 \times 25$

$(4 \times 12) \times 25$	$4 \times (12 \times 25)$
$= 48 \times 25$	$= 4 \times 12 \times (20 + 5)$
= 48 × (.......... + 5)	= 4 × (.......... × .... + 12 × 5)
= .... × .... + ... ×	= 4 × (.......... + ...)
= .... + ...	= 4 × .... + 4 × ....
=	= .... + ... = ...

b $6 \times 18 \times 35$

$(6 \times 18) \times 35$	$6 \times (18 \times 35)$
= .... × 35	= .... × 18 × (.......... + ...)
= .... × (.......... + ...)	= .... × (.......... × .... + ... × ....)
= .... × .... + ... ×	= .... × (.......... + ...)
= .... + ...	= .... × .... + ... × ....
=	= .... + ... = ...

13 Choose the number closest to the correct answer , without performing the multiplication operation :

a $25 \times 977 \times 4 =$ .... (9 000 , 10 000 , 110 000)

b $40 \times 75 \times 50 =$ .... (300 thousand , 200 thousand , 500 thousand)

c $100 \times 99 \times 98 =$ .... (900 thousand , 800 thousand , one million)

d $125 \times 48 =$ .... (five thousand , six thousand , seven thousand)

Real Life Problems

Example

Wael read 8 books of 224 pages each.

Calculate how many pages he read.

What Wael read = 224 × 8 = 1 792 pages.



a Mohamed saves P.T. 3 455 monthly.

Calculate how much money he saves in 9 months.

....

....



b A primary school is formed of 19 classes of 45 pupils each.

Calculate the total number of the pupils.

....

....



c A man bought 398 metres of cloth for L.E. 45 per metre.

Find the total cost price.

....

....



d Ministry of Education distributed 425 computers for each administration.

Find the total number of computers for 12 administrations.

....

....



e If Aly and 29 passengers travelled to Hurghada City by Egypt Air Lines. The price of the ticket was L.E. 215

How much money did all the passengers pay ?

....

....



f In one of their happy occasions, a family bought 18 kilograms of meat for L.E. 35 a kilogram and16 litres of juice for P.T. 400 a litre.

How many pounds did the family pay ?

....

....





g A man wanted to build a house for his family. He bought 15 tons of building steel for L.E. 7 356 a ton and 48 tons of cement for L.E. 475 a ton.

How much did the man pay ?

....

....



h A trader bought 25 fridges. The price of a fridge 1 245 pounds and the cost price of transportation expences 175 pounds.

Calculate the total amount that the trader paid.

....

....



i Sara bought a living room.
She paid L.E. 2 850
, then she paid 20 instalments each for L.E. 250

Find the price of the living room.

....

....



j A merchant had 2 465 pounds.
He bought 35 boxes of soft drink for L.E. 47 each.

How much money was left with him ?

....

....



Think and answer

In each of the following, find the missing digits :

a

			☐	2	4
×				☐	4
		1	2	☐	☐
+	1	6	2	0	0
	☐	☐	☐	☐	☐

b

			☐	3	5
×				☐	8
		7	4	☐	☐
+	☐	☐	7	0	0
	☐	☐	☐	☐	☐

c

			☐	4	☐	4	☐	8
×							7	5
		1	7	0	2	0	4	0
+	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐



LESSON 4 (C) Dividing a whole number by another

Remember that :

When we divide 8 by 2 , we write :

8 ÷ 2 = 4

Dividend, Divisor, Quotient

or

Divisor → 2, Quotient → 4, Dividend → 8 (2 ⟌8 with 4 above)

Now : If we want to divide 9 oranges equally between 2 persons, then the greatest whole number of oranges that can be given to every one equals 4 oranges and the remainder is one orange.

Thus, 9 ÷ 2 = 4 and the remainder = 1

9 → Dividend, 2 → Divisor, 4 → Quotient

Notice that :

$9 = (2 \times 4) + 1$

So , Dividend = (Divisor × Quotient) + Remainder

The remainder must be less than the divisor.

(1) Dividing by a 1-digit number

Example 1

Find the quotient of : 42 ÷ 3

Solution

$$42 \div 3 = (4 \text{ tens} + 2 \text{ units}) \div 3$$
$$= (3 \text{ tens} + 1 \text{ ten} + 2 \text{ units}) \div 3$$
$$= (3 \text{ tens} + 12 \text{ units}) \div 3$$
$$= (30 + 12) \div 3$$
$$= (30 \div 3) + (12 \div 3)$$
$$= 10 + 4$$
$$= 14$$

Another solution

1. Divide 4 by 3 and estimate the result which is 1 , then write it over 4 (tens)

```
   1
3 | 4 2
```

2. Multiply 1 by 3 and write the result which is 3 under 4

```
   1
3 | 4 2
    3
```

3. Subtract 3 from 4 the remainder is 1 and bring down 2

```
   1
3 | 4 2
  - 3 ↓
    1 2
```

4. Divide 12 by 3 The result is 4 , then write it over 2 (units)

```
   1 4
3 | 4 2
  - 3
    1 2
```

5. Multiply 3 by 4 The result is 12

```
   1 4
3 | 4 2
  - 3
    1 2
    1 2
```

6. Subtract 12 from 12 The remainder is zero

```
   1 4
3 | 4 2
  - 3
    1 2
  - 1 2
    0 0
```

Thus , 42 ÷ 3 = 14

Lesson 4(C)

Example 2

Find the quotient of : 176 ÷ 8

Solution

1 Since 1 < 8 write 0 over 1

```
    0
8 | 1 7 6
```

2 Divide 17 by 8 and estimate the result which is 2

```
    0 2
8 | 1 7 6
```

3 Multiply 2 by 8 and subtract the result from 17, then bring down 6

```
    0 2
8 | 1 7 6
  - 1 6
    0 1 6
```

4 Divide 16 by 8, the result is 2

```
    0 2 2
8 | 1 7 6
  - 1 6
    0 1 6
```

5 Multiply 2 by 8 and subtract the result from 16, then the remainder is zero

```
    0 2 2
8 | 1 7 6
  - 1 6
    0 1 6
  -   1 6
      0 0
```

Thus , 176 ÷ 8 = 22

(2) Dividing a whole number by a 2-digit number

Example 3

Find the quotient of : 5 025 ÷ 25

Solution

1 Since 5 < 25, we write 0 over 5

```
      0
25 | 5 0 2 5
```

2 Divide 50 by 25. The result is 2

```
      0 2
25 | 5 0 2 5
```

3 Multiply 2 by 25 and subtract the result from 50, then bring down 2

```
      0 2
25 | 5 0 2 5
   - 5 0
     0 0 2
```

4 Since 2 < 25, we write 0 over 2, then bring down 5

```
      0 2 0
25 | 5 0 2 5
   - 5 0
     0 0 2 5
```

5 Divide 25 by 25. The result is 1, and there is no remainder.

```
      0 2 0 1
25 | 5 0 2 5
   - 5 0
     0 0 2 5
```

Thus , 5 025 ÷ 25 = 201

Dividing with remainder

Example 4

Find the quotient and the remainder of : 70 658 ÷ 17

Solution

70 658 ÷ 17 = 4 156 and the remainder is 6

```
      0 4 1 5 6
17 | 7 0 6 5 8
   - 6 8
       2 6
   -   1 7
         9 5
   -     8 5
         1 0 8
   -     1 0 2
         0 0 6
```

Since 6 < 17, then the remainder is 6

EXERCISE 6

Dividing a whole number by another

📖 From the school book

1 Find the result following the example (use your calculator to check the answer) :

Example

- 759 ÷ 3 = (700 + 50 + 9) ÷ 3
  = (600 + 150 + 9) ÷ 3
  = (600 ÷ 3) + (150 ÷ 3) + (9 ÷ 3)
  = 200 + 50 + 3 = 253

a 655 ÷ 5 = (600 + 50 + 5) ÷ 5
= (500 + 150 + 5) ÷ 5
= (.......... ÷ 5) + (.......... ÷ 5) + (.......... ÷ 5)
= .... + ... + ... = ...

b 896 ÷ 4 = (.......... + ... + ...) ÷ ....
= (.......... + ... + ...) ÷ ....
= (.......... ÷ ....) + (.......... ÷ ....) + (.......... ÷ ....)
= .... + ... + ... = ...

2 Find the result following the example (use your calculator to check the answer) :

Example

① 568 ÷ 2 = 284

② 957 ÷ 3 = 319

a 955 ÷ 5 = ...
b 690 ÷ 2 = ...
c 📖 946 ÷ 2 = ...
d 📖 486 ÷ 3 = ...
e 726 ÷ 6 = ...
f 684 ÷ 4 = ...
g 📖 847 ÷ 7 = ...
h 📖 655 ÷ 5 = ...
i 368 ÷ 8 = ...
j 865 ÷ 5 = ...
k 888 ÷ 6 = ...
l 5 831 ÷ 7 = ...

m 6 444 ÷ 9 = ... **n** 5 508 ÷ 6 = ...

o 350 714 ÷ 7 = ... **p** 390 130 ÷ 13 = ...

3 Find the result of each of the following as in the example :

Example

$$3\overline{)243} = 081$$

a 4 ⟌ 264 = ...

b 3 ⟌ 294 = ...

c 7 ⟌ 518 = ...

d 6 ⟌ 624 = ...

e 7 ⟌ 938 = ...

f 8 ⟌ 1144 = ...

g 9 ⟌ 1404 = ...

4 Complete as in the example :

	Operation	Dividend	Divisor	Quotient	Remainder	Relation between these elements
Ex	43 ÷ 5	43	5	8	3	43 = 5 × 8 + 3
a	77 ÷ 9	....	....	....	....	....
b	52 ÷ 3	....	....	....	....	....
c	67 ÷ 5	....	....	....	....	....
d	84 ÷ 9	....	....	....	....	....
e	....	52	4	....	....	....
f	....	654	3	....	....	....
g	....	....	7	9	2	....

5 Find the result of each of the following :

a 300 ÷ 12 = ... **b** 646 ÷ 17 = ... **c** 384 ÷ 16 = ...

d 646 ÷ 19 = ... **e** 774 ÷ 18 = ... **f** 1 196 ÷ 26 = ...

g 3 618 ÷ 27 = ... **h** 2 736 ÷ 48 = ... **i** 2 072 ÷ 56 = ...

j 1 085 ÷ 35 = ... **k** 48 195 ÷ 63 = ... **l** 38 571 ÷ 43 = ...

Lesson 4(C)

6 Find the quotient and the remainder for each of the following :

a 2 312 ÷ 68 b 3 423 ÷ 62 c 9 327 ÷ 28

d 96 960 ÷ 48 e 70 070 ÷ 35 f 64 064 ÷ 16

7 Put (✓) for the correct statement and (×) for the incorrect one :

a 7 035 ÷ 35 = 210 ( )

b 3 672 ÷ 36 = 201 ( )

c 1 372 ÷ 49 = 29 ( )

d If : 79 × 18 = 1 422 , then 1 422 ÷ 79 = 18 ( )

e 624 ÷ 38 = 16 and the remainder is 17 ( )

f When dividing 13 , 26 , 39 , 52 , ... etc. by 13 , then the remainder is zero ( )

8 Choose the correct answer between brackets :

a 5 740 ÷ 28 = ········ (502 or 205 or 52)

b 38 052 ÷ 63 = ········ (604 or 406 or 640)

c 29 711 ÷ 37 = ········ (830 or 803 or 380)

d 25 788 ÷ 84 = ········ (307 or 370 or 703)

e (2 331 ÷ 37) – 63 = ········ (126 or zero or 63)

f 4 452 ÷ 84 = (37 + ········) (26 or 53 or 16)

g 1 776 ÷ 37 = (········ – 200) (48 or 148 or 248)

9 Complete using (< , > or =) in blanks :

a 3×15 ☐ $90 \div 2$

b 4×13 ☐ $520 \div 10$

c $7\,365 \div 15$ ☐ $7\,290 \div 15$

d $9\,600 \div 5$ ☐ $9\,600 \div 4$

e $5\,025 \div 25$ ☐ $2\,814 \div 14$

f $2\,432 \div 32$ ☐ 19×4

---

10 Complete using a suitable relation (< , > or =) in each ◯ without performing the division operation :

a $2\,538 \div 18$ ◯ $2\,538 \div 37$

b $720 \div 9$ ◯ $(72 \div 9) \times 10$

c $100 \times (2\,448 \div 24)$ ◯ $24\,480 \div 24$

---

11 If $458 \times 29 = 13\,282$, then :

a $13\,282 \div 29 =$ ……………

b $13\,282 \div 458 =$ ……………

c $13\,291 =$ …………… $\times 29 +$ ……………

---

12 Complete :

a $721\,014 \div 7 =$ ……………

b …………… $\div 37 = 318$

c $3\,498 \div$ …………… $= 53$

d $62\,550 \div 25 =$ ……………

e $1\,856 \div 29 = 100 -$ ……………

f $(125\,900 \div 10) - 2\,590 =$ ……………

g $(4\,096 \div 64) \div 16 =$ ……………

h $(1\,408 \div 22) - 28 =$ ……………

i When we divide 3 678 by 16, the quotient is …………… and the remainder is ……………

j When we divide …………… by 36, the quotient is 156 and the remainder is 15

13 Find the number that if we :

a divide by 69 , the quotient is 2 358 and the remainder 0

b multiply by 54 , the product is 4 158

Real Life Problems

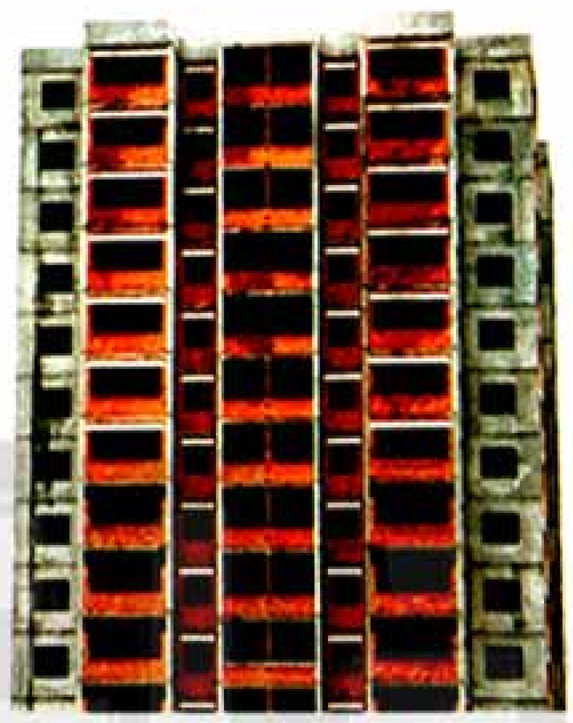
Example

Ashraf bought an apartment for L.E. 74 760 on 6 equal instalments.

Calculate the value of each instalment.

The value of each instalment
= 74 760 ÷ 6 = L.E. 12 460

```
   12460
6 ⟌74760
 - 6
   14
 - 12
   027
 -  24
    036
 -   36
     00
```



a A merchant bought 5 stoves for L.E. 25 940

Find the price of each stove.

....

....



b A runner covers 24 480 metres in 6 hours.

Calculate how long he covers in one hour.

....

....



c Eman saved P.T. 4 975 in 5 months.

Calculate how much she saved in one month.

....

....



d If 756 pupils in a school are distributed equally among 18 classes.

Find the number of pupils in each class.

....

....



e If the price of a book is P.T. 375

Find the number of books of the same kind that can be bought for L.E. 90

....

....



f A car uses one litre of petrol to cover 15 kilometres.

How many litres does the car need to cover 570 kilometres ?

....

....



Lesson 4(C)

g Ahmed bought a TV set for L.E. 1 660
He paid L.E. 340 and the rest was divided on 24 equal instalments.

Find the value of each instalment.

....

....



h Adel bought a flat in a housing tower for L.E. 168 940 He paid L.E. 100 000 as a down payment and the rest on 18 equal instalments.

Find the value of each instalment.

....

....



i Bassem bought 26 metres of cloth for 286 pounds.

Find the price of 8 metres of the same cloth.

....

....



j There are 36 pencils in a box.

How many boxes can be filled with 2 458 pencils ?
How many pencils will be left over ?

....

....



k The daily production of a factory producing garments from one clothing item is 732 units and from a second item is 956 units. The box used for packaging the factory production for export can hold 18 units of the first kind or 15 units of the second. Find :



(1) The greatest number of boxes consumed by the factory daily.

(2) The greatest daily remainder from each kind produced.

....

....

....

....

Think and answer

Find the quotient of 18 936 ÷ 24 without using the calculator , then use the quotient to find the quotient of each of the following without carrying the division operations :

a 18 940 ÷ 24 **b** 18 931 ÷ 24



Activities from the school book

Activity 1

a Find the smallest number formed from 10 different digits.

b Find the greatest number formed from 10 different digits.

c Find the smallest even number formed from 10 different digits.

d Find the greatest odd number formed from 10 different digits.

e Find the smallest number formed from 10 different digits and the sum of its units and tens digits equals 3

f Find the greatest number formed from 10 different digits and the sum of its units and tens digits equals 9

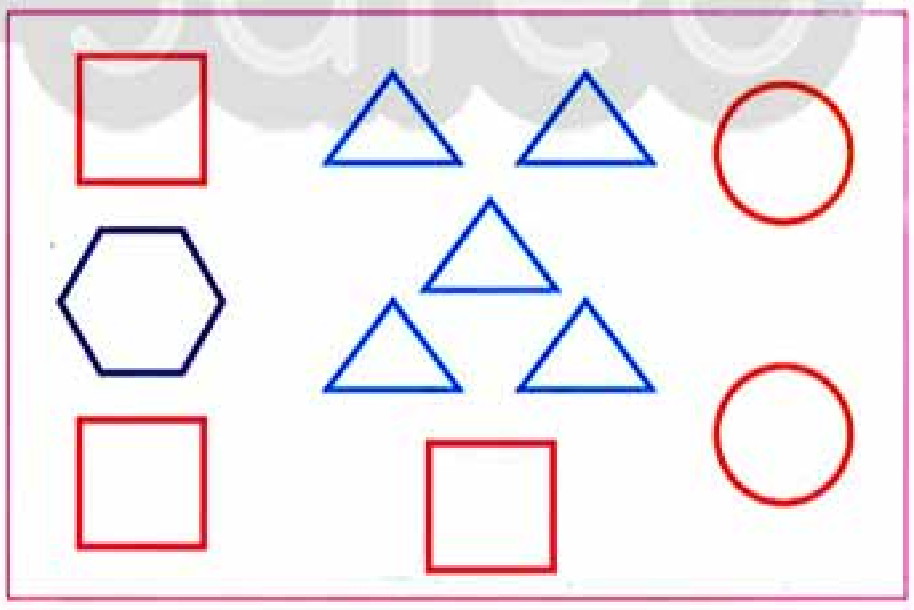
Activity 2

Write three numbers , each of them is formed from four different digits of 9 , 6 , 5 , 4 and 0 such that :
The first is the closest to 4 000
The second is the closest to 5 000
The third is the closest to 6 000

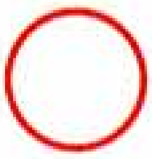
Activity 3

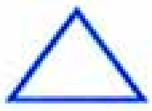
Notice and deduce

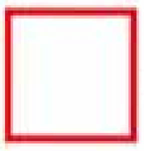
In the opposite figure , geometric shapes were drawn to express the number 21 003 005

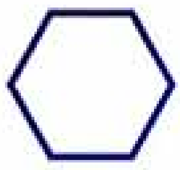


Deduce the value of each of the following shapes.

 = ...

 = ...

 = ...

 = ...



GENERAL EXERCISE
From the school book

Unit One "Large numbers and operations on them"

1 Complete each of the following :

1. The smallest 7-digit number is ....
2. The smallest different 6-digit number is ....
3. The greatest 7-digit number is ....
4. The greatest 5-digit number is ....
5. The million is the smallest number formed from .... digits.
6. Without repeating digits , the greatest number formed from the digits : 0 , 3 , 2 , 5 , 1 and 6 is ....
7. Ten million is the smallest number formed from .... digits.
8. 49 × 830 = ...

In the exercises (9 ⟶ 15) , the place value of the digit :

9. 6 in the number 2 641 is ....
10. 4 in the number 54 678 is ....
11. 2 in the number 762 618 is ....

General Exercise

12 8 in the number 73 985 241 is ....

13 7 in the number 54 365 724 is ....

14 5 in the number 135 649 728 is ....

15 3 in the number 2 834 571 is ....

16 Rewrite the following numbers using the digits :

- **a** 2 million , 37 thousand , 9 = ...
- **b** 24 million , 35 thousand , 47 = ...
- **c** 4 million , 7 thousand , 706 = ...
- **d** 5 million , one thousand = ...
- **e** 4 million , five hundred and thirty-eight = ...
- **f** 45 million , 30 thousand , 99 = ...
- **g** 32 million , 8 thousand , 15 = ...
- **h** 6 million , 727 thousand , 704 = ...
- **i** 71 million , 354 thousand , 12 = ...

17 350 tens = ... hundreds.

18 150 000 = ... hundreds.

19 3 092 000 = ... million , ... thousand.

20 342 million = ... thousand.

21 240 thousand = ... hundreds = ...

22 The greatest number formed from the digits 5 , 8 , 4 and 9 is ....

23 The place value of the digit 3 in the number 8 376 542 is ....

2 Choose the correct answer :

1 The million is the smallest number formed from ………… digits.

a. 3 b. 7 c. 4

2 The digit which represents million in the number 46 835 714 is …………

a. 6 b. 8 c. 3

3 $50 \times 40 =$ ………… hundreds.

a. 2 b. 200 c. 20

4 $805 \times 100 =$ ………… $\times 10$

a. 85 b. 8 050 c. 250

5 280 tens ………… 28 hundreds.

a. > b. < c. =

6 The value of the digit 8 in the number 587 627 is …………

a. 80 000 b. 800 000 c. 8 000

7 150 thousands = …………

a. 150 tens b. 15 thousands c. 1 500 hundreds

8 Three millions , three thousands and three is …………

a. 3 003 003 b. 30 300 c. 3 030

9 The value of the digit 7 in the number 40 735 126 is …………

a. 7 million b. 70 thousand c. 700 thousand

10 71 million , 354 thousand and 12 = …………

a. 71 354 120 b. 7 135 412 c. 71 354 012

11 365 274 ………… 359 876

a. > b. < c. =

12 30×40 ………… 20×60

a. < b. > c. =

13 6 934 + 3 359 = …………

a. 12 093 b. 10 293 c. 20 193

14 5 million ………… 500 000

a. <　　b. >　　c. =

15 The value of the digit 8 in the number 1 096 835 is …………

a. 8　　b. 800　　c. 8 000

16 70 × 20 = 14 × …………

a. 10　　b. 100　　c. 1 000

17 40 × 500 ………… 20 × 10

a. >　　b. =　　c. <

18 The place value of the digit 3 in the number 736 542 is …………

a. thousands　　b. ten thousands

c. hundred thousands　　d. millions

---

3 Put the suitable relation (< , > or =) :

1 652 × 4 ………… 652 × 5

2 12 500 ÷ 5 ………… 10 × 25

3 678 345 ………… 578 344 + 100 000

4 20 000 ÷ 4 ………… 2 000 ÷ 4

5 4 milliard ………… 40 × 1 000 000

6 6 × 15 ………… 90 ÷ 2

7 6 × 4 milliard ………… 40 × 1 000 000

8 6 × 70 × 10 ………… 5 tens × 100

9 200 – 120 ………… 160 ÷ 2

10 The value of the digit 4 in the number 94 876 ………… the value of the digit 8 in the number 94 876

4 **Find the result of each of the following :**

a 879 156 + 498 068 = ... b 608 467 – 129 585 = ...

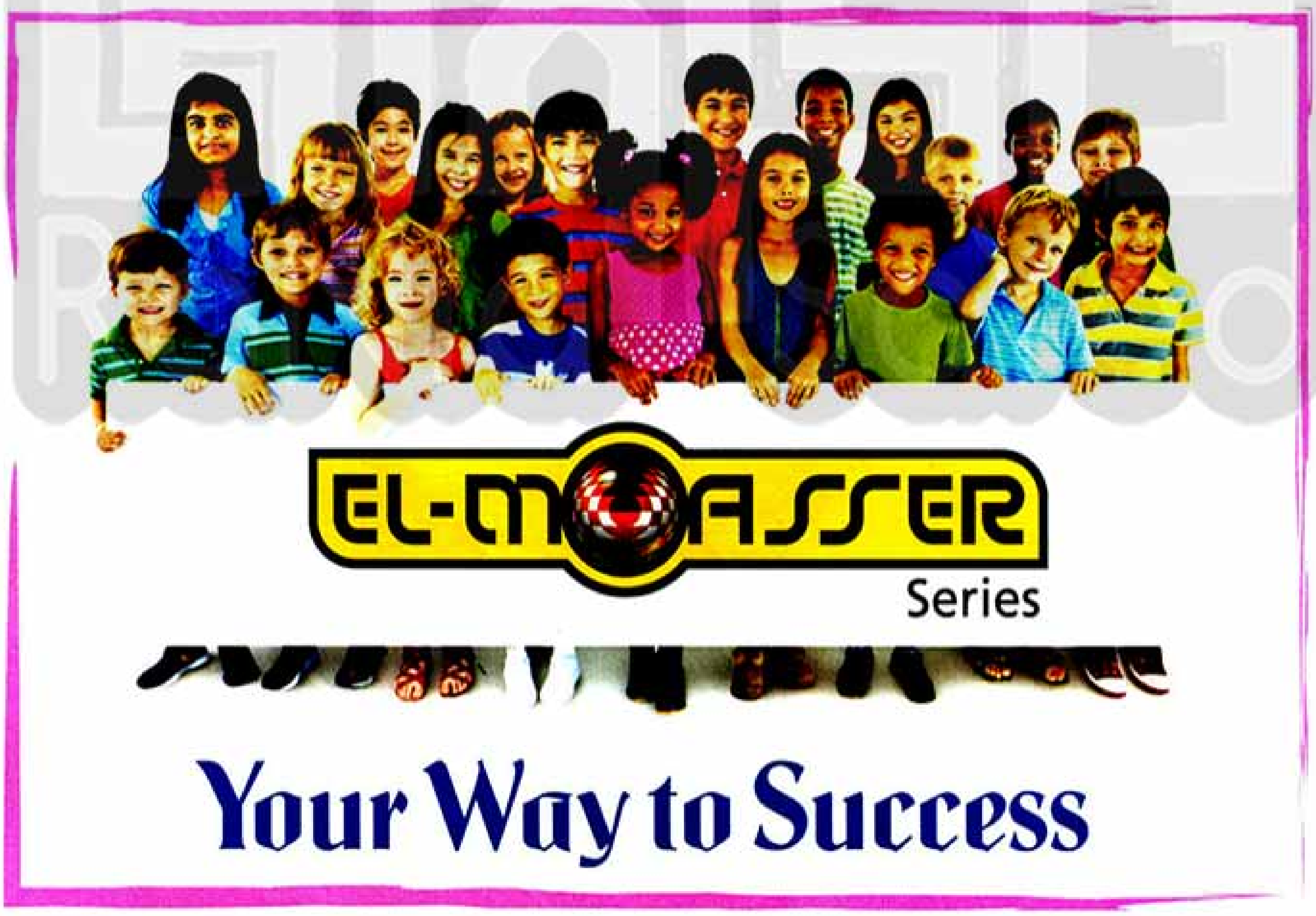
c 2 525 ÷ 25 = ... d 4 803 × 67 = ...

e 471 564 + 126 469 = ... f 738 594 – 153 037 = ...

5 In a certain year, the profit of one factory was L.E. 7 316 , if the profit is distributed equally among 31 workers , find the share of each worker.

6 Find the result of 502 × 6 and 502 × 90 , then deduce the product of 502 × 96

7 A hotel contains 204 rooms divided equally by a number of floors , each floor contains 17 rooms. How many floors are there in this hotel ?



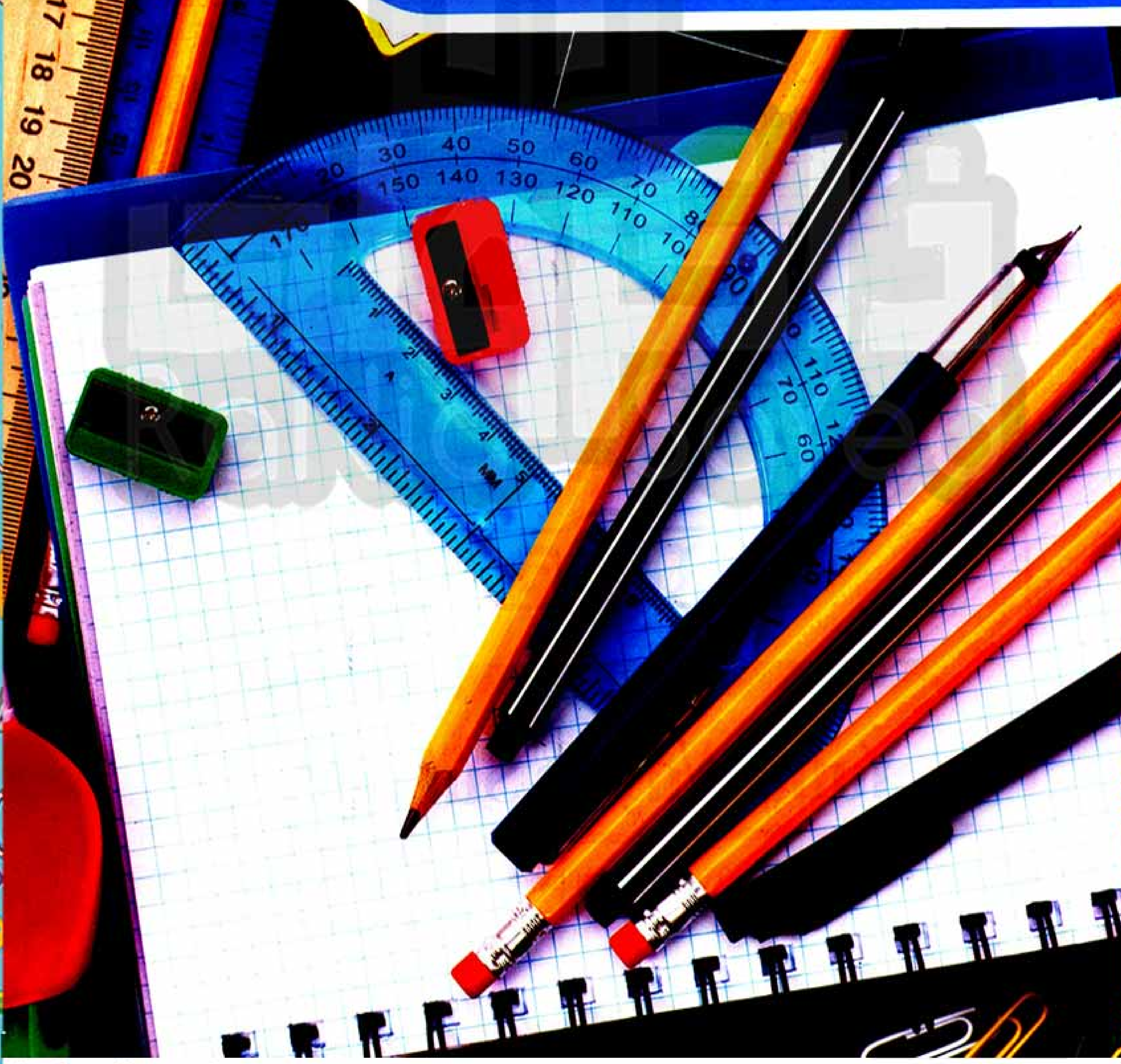
2 UNIT

Geometry

Lessons of the unit :

1. Relation between two straight lines - Geometric constructions.
2. Polygons.
3. The triangle.
4. Applications.

- Activities and general exercise from the school book.



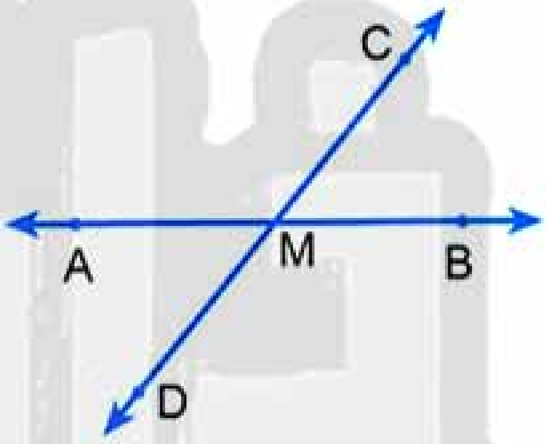


LESSON 1 Relation between two straight lines– Geometric constructions

(1) Two intersecting straight lines

In the opposite figure :

The two straight lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ have only one common point M, then $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are called "intersecting lines" and the point M is called "intersection point"



Notice that :

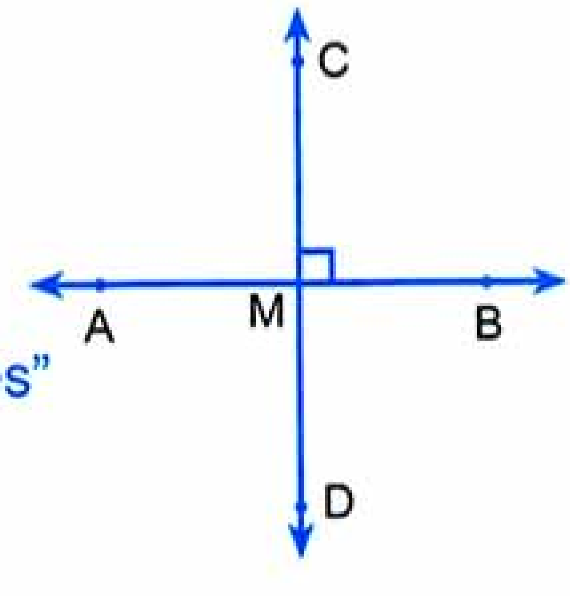
$\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ form four angles
They are : ∠AMC, ∠CMB , ∠ BMD and ∠ DMA

(2) Two perpendicular straight lines

In the opposite figure :

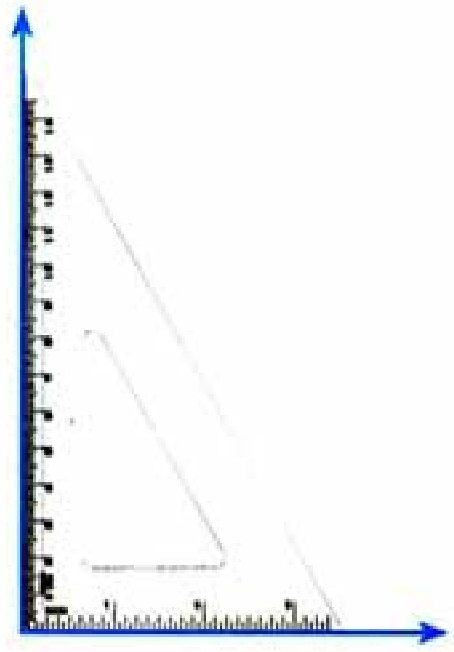
$\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are two intersecting straight lines, and they form four right angles at their intersection point M, then $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are called "perpendicular lines" or "orthogonal lines" and this is denoted by the symbol "⊥"

i.e. we write : $\overleftrightarrow{AB} \perp \overleftrightarrow{CD}$ or $\overleftrightarrow{CD} \perp \overleftrightarrow{AB}$

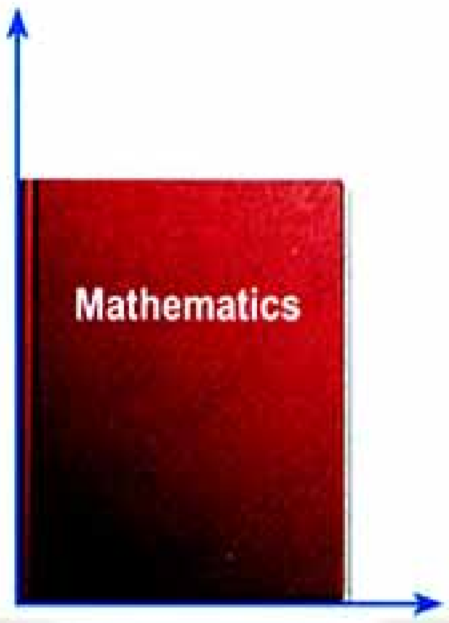


Lesson 1

Examples from our life for perpendicular lines:



The edges of the right angle in the set square



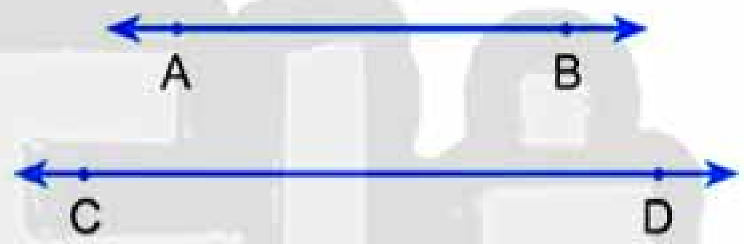
The edges of your book



The edges of the door

"You can mention other examples in your life for the perpendicular lines"

(3) Two parallel straight lines



In the opposite figure :

$\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ have not a common point "intersection point" ,

then $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are called "parallel lines" ,

and this is denoted by the symbol " // "

i.e. we write : $\overleftrightarrow{AB}$ // $\overleftrightarrow{CD}$ or $\overleftrightarrow{CD}$ // $\overleftrightarrow{AB}$

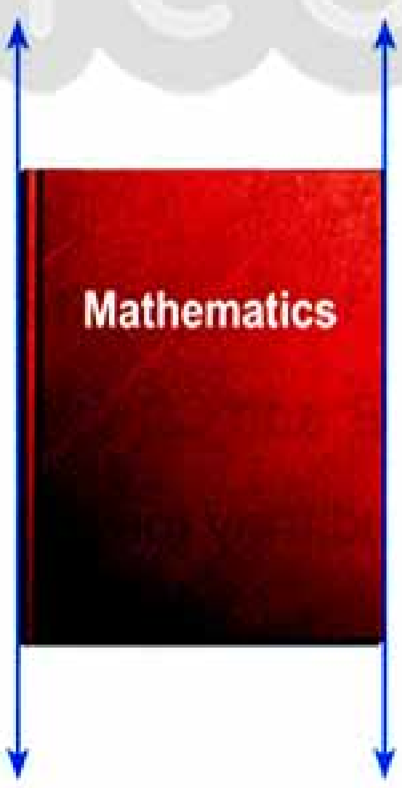
Examples from our life for Parallel lines :



The opposite edges of the ruler



The train tracks



The opposite edges of your book

"You can mention other examples in your life for the parallel lines"

Drawing a perpendicular to a straight line from a given point

First Drawing a perpendicular to a straight line from a point on it

In the opposite figure :



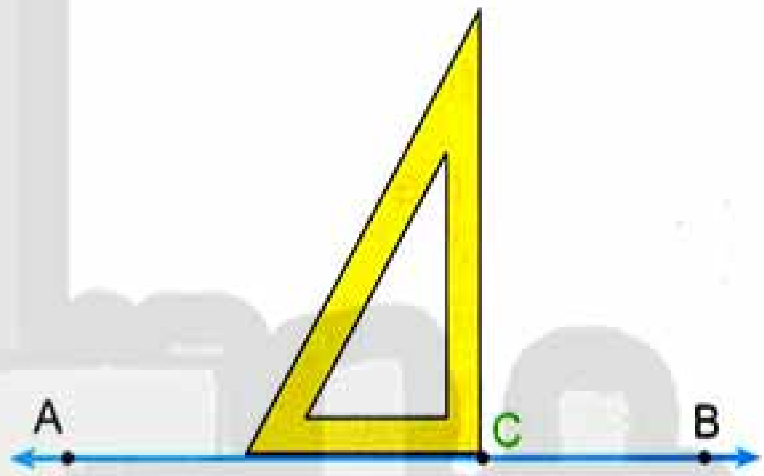
$\overleftrightarrow{AB}$ is a straight line and C is a point on it.

To draw a perpendicular from C to $\overleftrightarrow{AB}$

follow the following steps :

Step 1

Put the set square at C as shown.



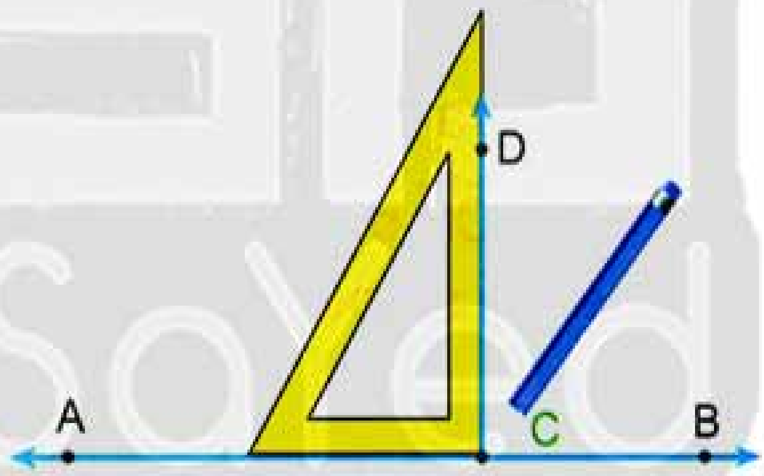
Step 2

From the point C , draw the ray

$\overrightarrow{CD}$ along the side of the set square

So, $\overrightarrow{CD}$ is the required

perpendicular to $\overleftrightarrow{AB}$

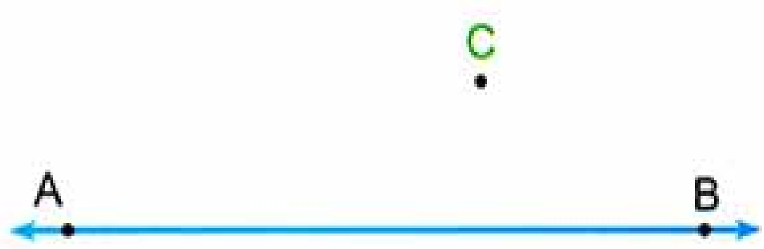


Second Drawing a perpendicular to a straight line from a point outside it

In the opposite figure :

$\overleftrightarrow{AB}$ is a straight line

and C is a point outside it.



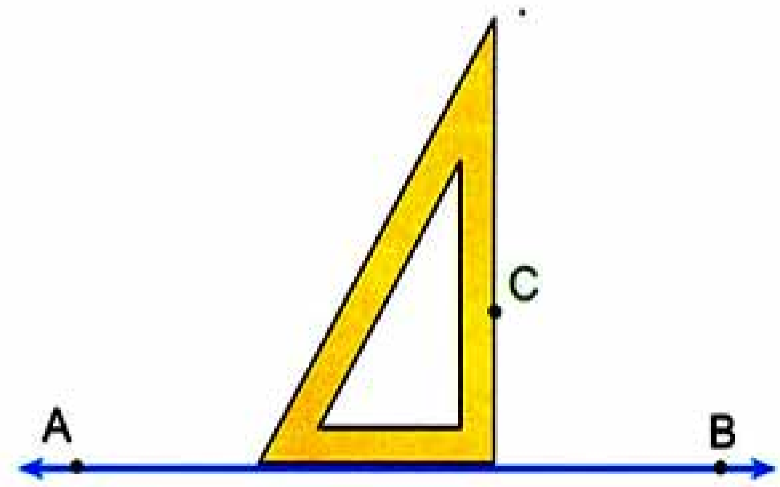
To draw a perpendicular from C to $\overleftrightarrow{AB}$

follow the following steps :

Lesson 1

Step 1

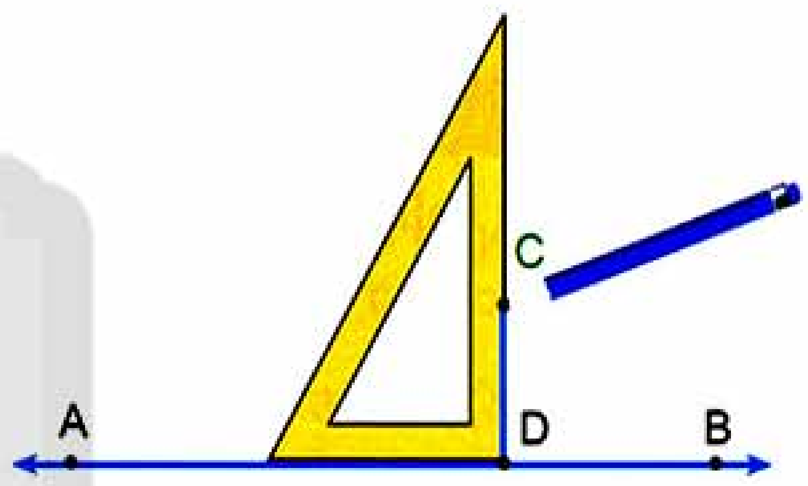
Put the set square at C as shown.



Step 2

From the point C, draw the line segment $\overline{CD}$ along the side of the set square

So, $\overline{CD}$ is the required perpendicular to $\overrightarrow{AB}$

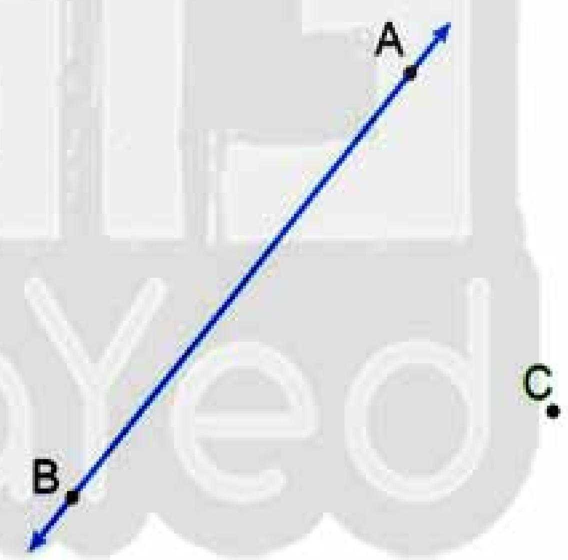


Drawing a straight line parallel to a given straight line from a point outside it

In the opposite figure :

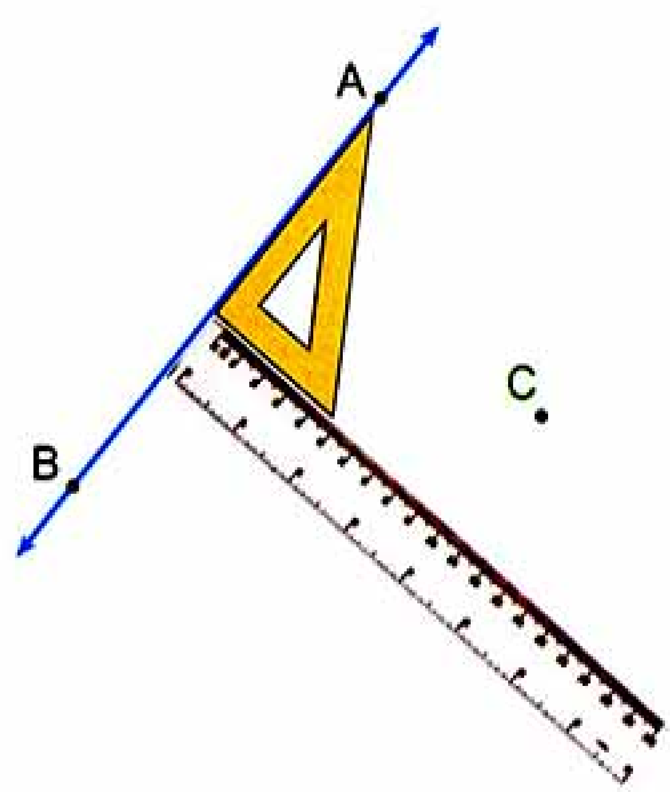
$\overleftrightarrow{AB}$ is a straight line and C is a point outside it.

To draw $\overleftrightarrow{CD}$ parallel to $\overleftrightarrow{AB}$, follow the following steps :



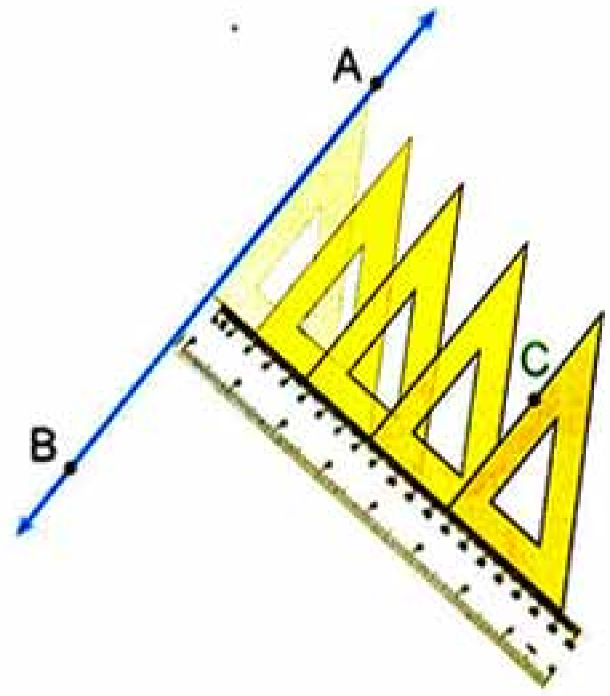
Step 1

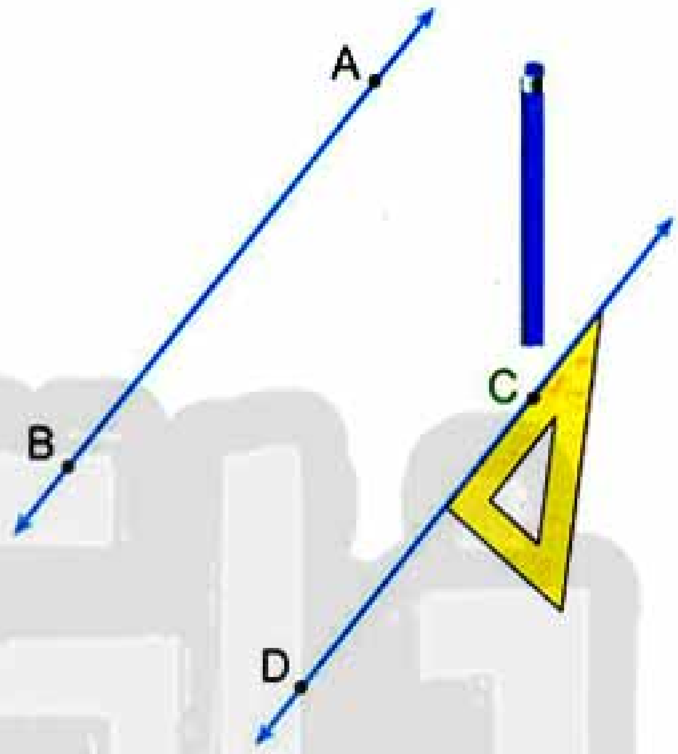
Put the set square along the straight line $\overleftrightarrow{AB}$ and put the ruler to be along the side of the right angle as shown.



Step 2

Slide the set square along the ruler until you reach point C as shown.





Step 3

Draw a straight line along this side of the set square passing through the point C

So, $\overleftrightarrow{CD}$ is parallel to $\overleftrightarrow{AB}$ and we write :

$\overleftrightarrow{CD} \parallel \overleftrightarrow{AB}$

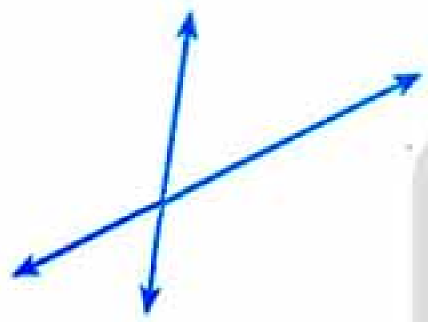
EXERCISE 7

Relation between two straight lines – Geometric constructions

📖 From the school book

1 Write "intersecting and perpendicular , intersecting and not perpendicular or parallel" to describe each pair of the following lines (you can use your geometric instruments) :

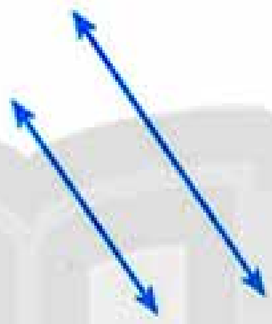
a



The two lines are :

....

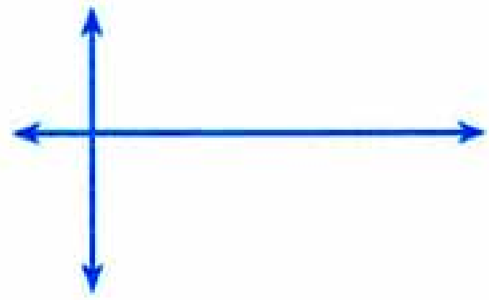
b



The two lines are :

....

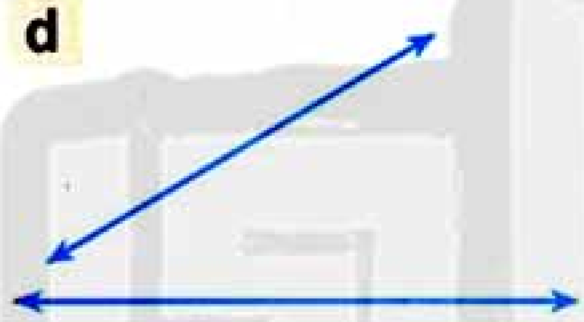
c



The two lines are :

....

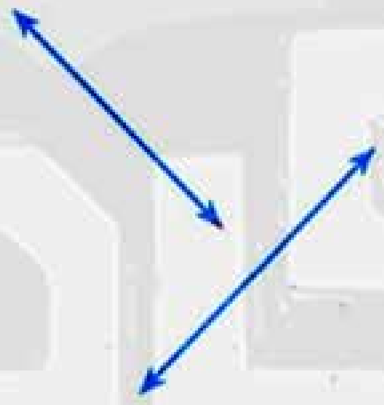
d



The two lines are :

....

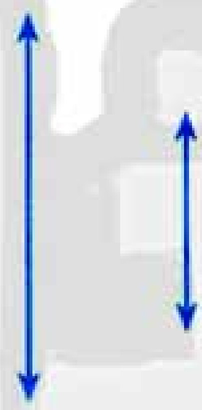
e



The two lines are :

....

f

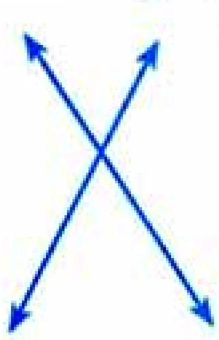


The two lines are :

....

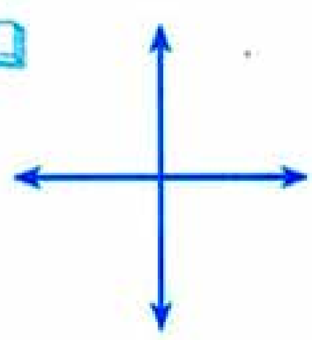
2 Write the relation between the two straight lines under each figure of the following figures :

a



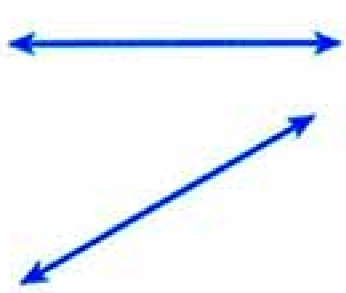
....

b 📖



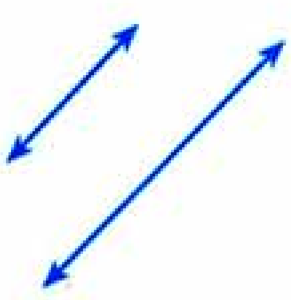
....

c



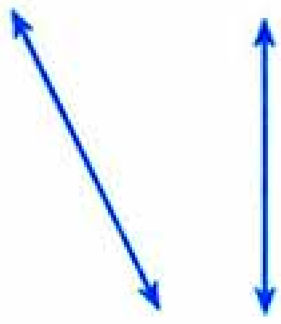
....

d 📖



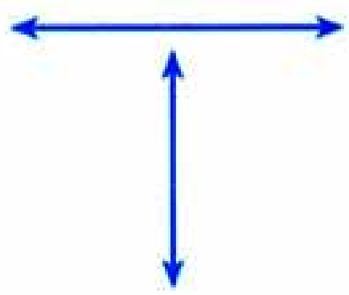
....

e



....

f



....

3 Choose the correct answer between brackets :

a Any two straight lines that never intersect are called ....

(perpendicular. or parallel. or intersecting and not perpendicular.)

b Any two lines that intersect at a point and make four right angles are called ....

(parallel. or intersecting and not perpendicular. or perpendicular.)

c The two intersecting lines intersect at ....

(one point. or two points. or zero points.)

d The two parallel lines intersect at ....

(two points. or zero points. or one point.)

e The two intersecting lines make .... angles. (2 or 4 or 5)

f If one angle at the intersection point of the two lines is acute angle , then the two lines are called ....

(perpendicular. or intersecting and not perpendicular. or parallel.)

g If one angle at the intersection point of the two lines is right angle, then the two lines are called ....

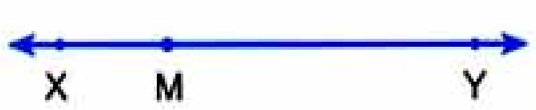
(parallel. or perpendicular. or intersecting and not perpendicular.)

h If one angle at the intersection point of the two lines is obtuse angle , then the two lines are called ....

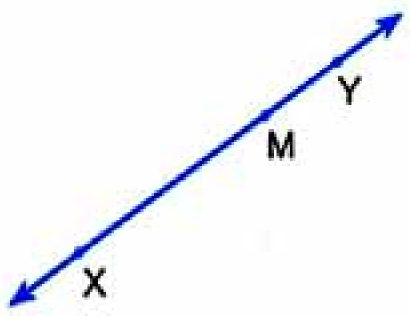
(perpendicular. or intersecting and not perpendicular. or parallel.)

4 Draw a perpendicular to $\overleftrightarrow{XY}$ from the point M in each of the following figures :

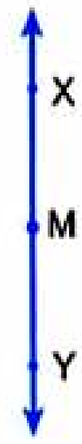
a



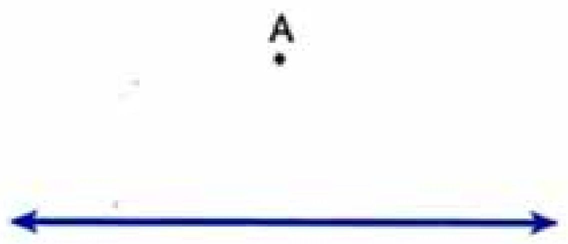
b

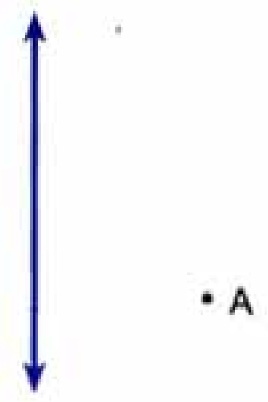


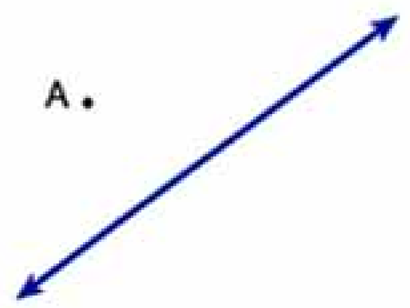
c



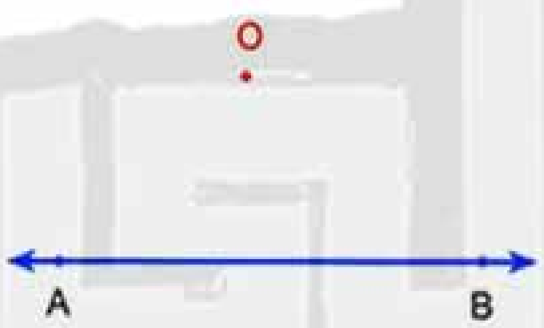
5 Draw a perpendicular from the point A to each of the given straight lines :

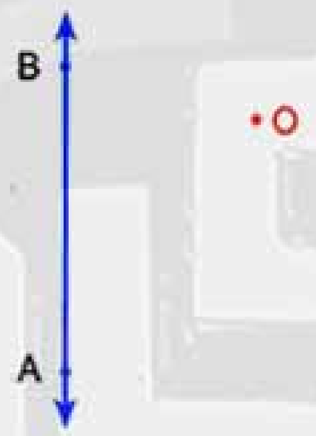
a


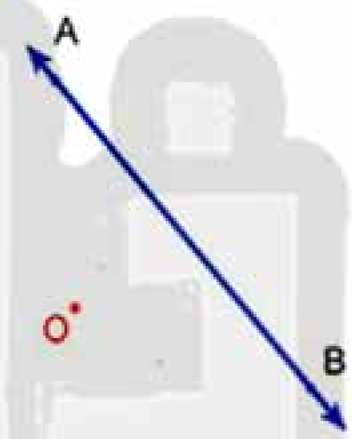
b


c


6 Draw a straight line parallel to $\overleftrightarrow{AB}$ from the shown point O in each of the following figures :

a


b


c


7 Circle the letters which have parallel lines as in the example :

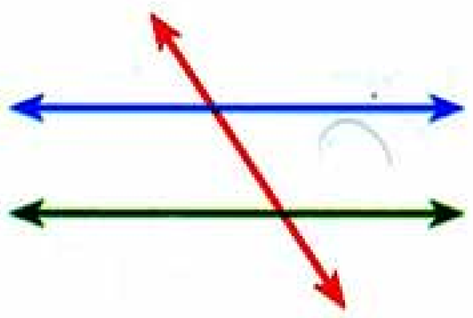
M	A	F	R
N	Z	O	H

8 Underline the digits which have perpendicular lines :

7	8	1	5
2	4	3	9

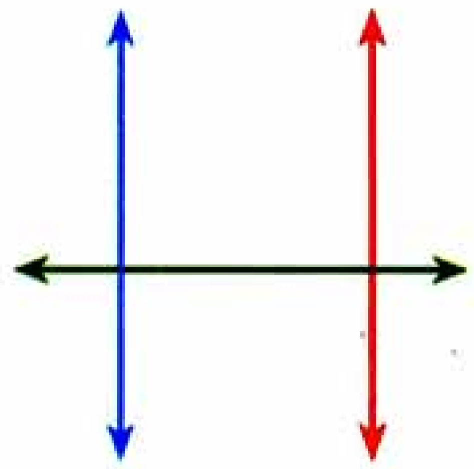
9 Write the colours of each pair of parallel lines in each of the following figures as in the example :

Example



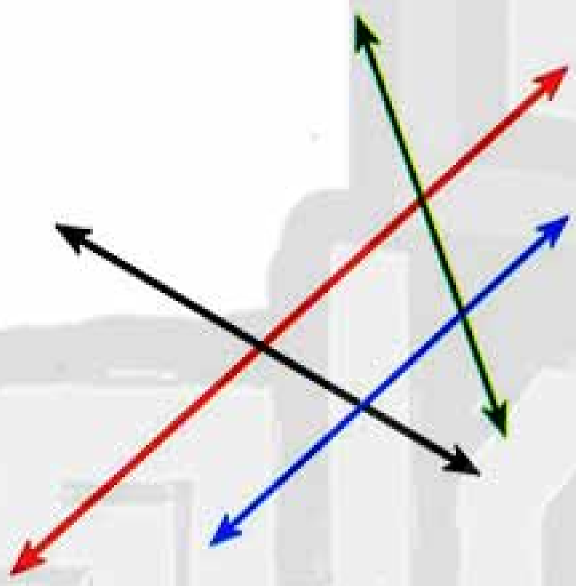
Blue and green

a



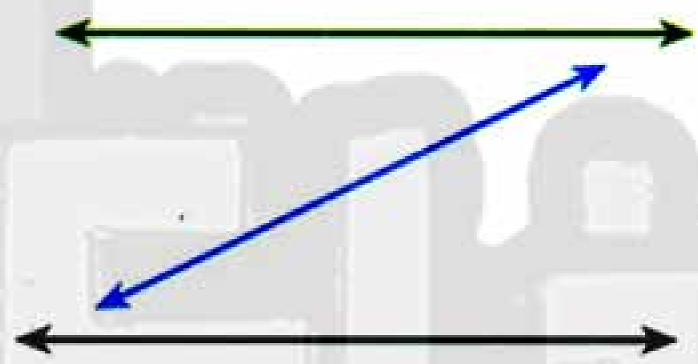
.... and ....

b



.... and ....

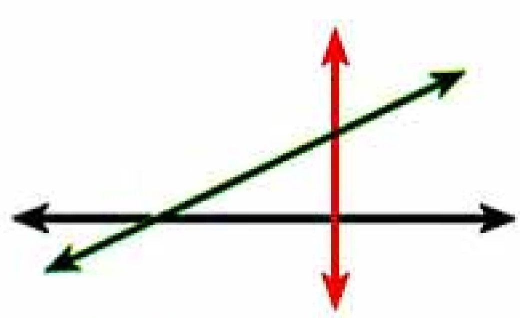
c



.... and ....

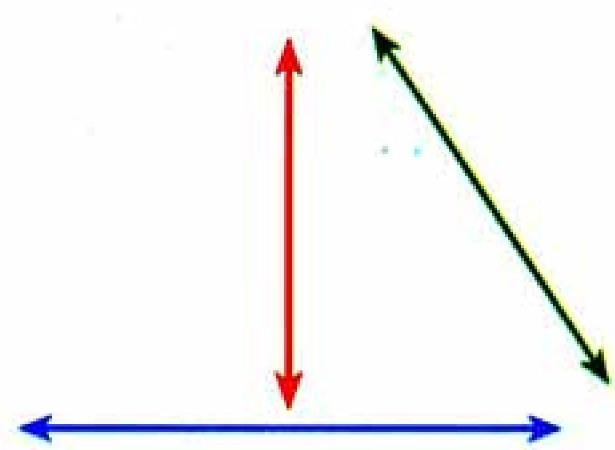
10 Write the colours of each pair of perpendicular lines in each of the following figures as in the example :.

Example



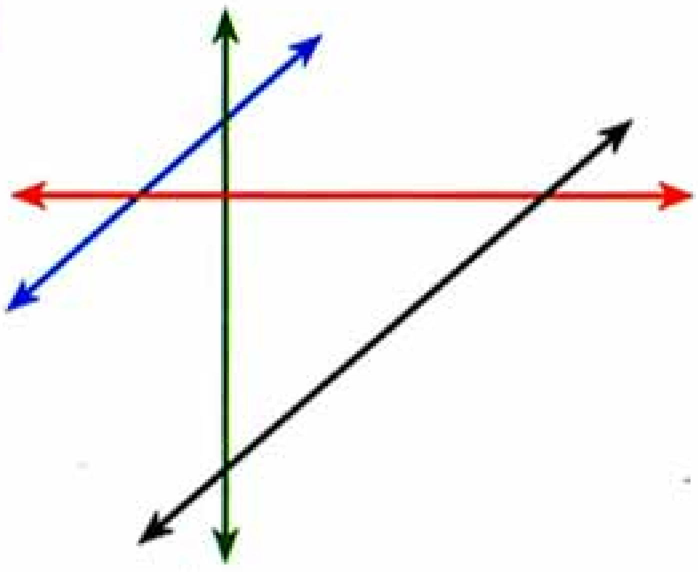
Red and black

a



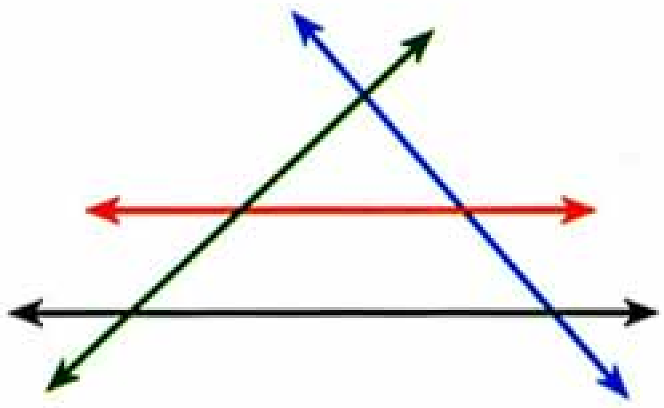
.... and ....

b



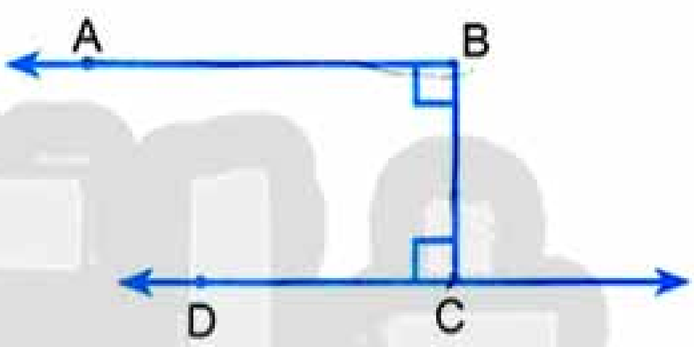
.... and ....

c



.... and ....

11 In the opposite figure , complete using "//" or "⊥" :

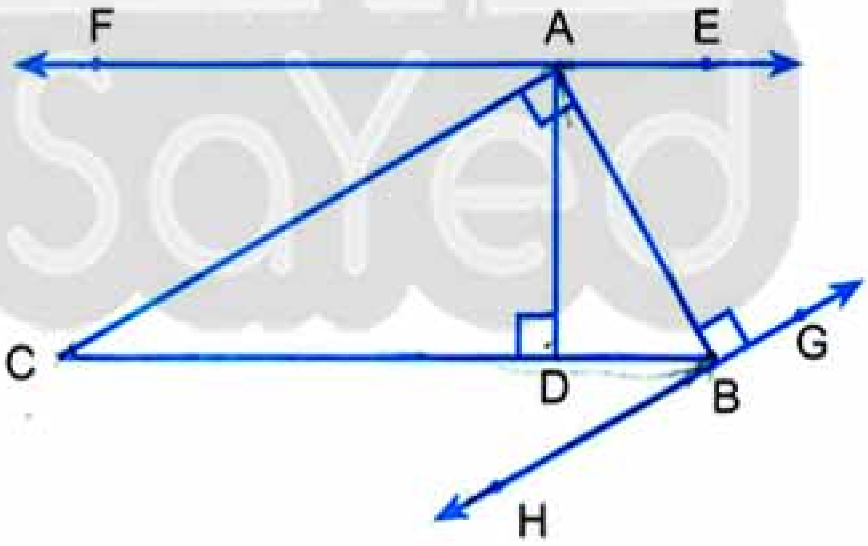


a $\overleftrightarrow{AB}$ .... $\overleftrightarrow{CD}$

b $\overleftrightarrow{CB}$ .... $\overleftrightarrow{CD}$

c $\overleftrightarrow{AB}$ .... $\overleftrightarrow{BC}$

12 In the opposite figure , complete using " // " or " ⊥ " :



a $\overleftrightarrow{AC}$ .... $\overleftrightarrow{AB}$

b $\overleftrightarrow{AE}$ .... $\overleftrightarrow{BC}$

c $\overleftrightarrow{BH}$ .... $\overleftrightarrow{AB}$

d $\overleftrightarrow{AD}$ .... $\overleftrightarrow{CB}$

e $\overleftrightarrow{HB}$ .... $\overleftrightarrow{AC}$

f $\overleftrightarrow{DA}$ .... $\overleftrightarrow{FE}$

g $\overleftrightarrow{BC}$ .... $\overleftrightarrow{FE}$

13 Notice the opposite figure , then complete :

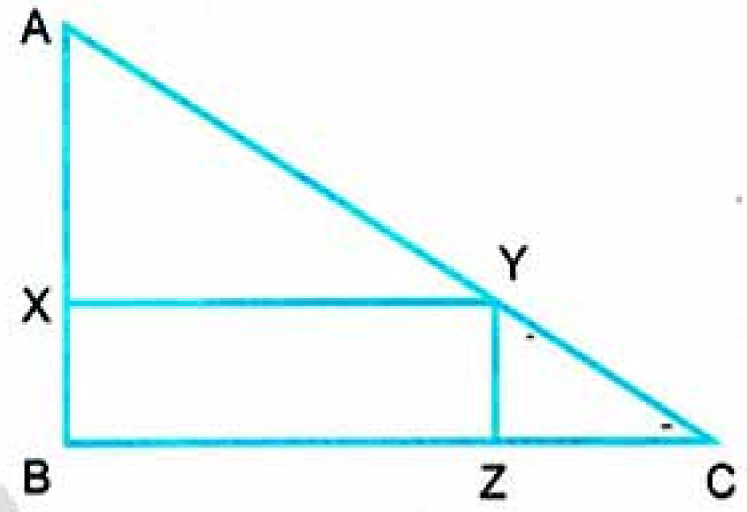
a $\overleftrightarrow{AB}$ .... $\overleftrightarrow{BC}$ "⊥ or //"

b $\overleftrightarrow{AB}$ .... $\overleftrightarrow{YZ}$ "⊥ or //"

c $\overleftrightarrow{XY}$ .... $\overleftrightarrow{BC}$ "⊥ or //"

d $\overleftrightarrow{AY}$ intersects $\overleftrightarrow{BZ}$ at the point ....

e $\overleftrightarrow{YC}$ intersects $\overleftrightarrow{BX}$ at the point ....



14 Choose the correct answer between brackets , using the opposite figure :

a $\overleftrightarrow{AB}$ ⊥ .... ($\overleftrightarrow{DC}$ or $\overleftrightarrow{AD}$ or $\overleftrightarrow{XY}$)

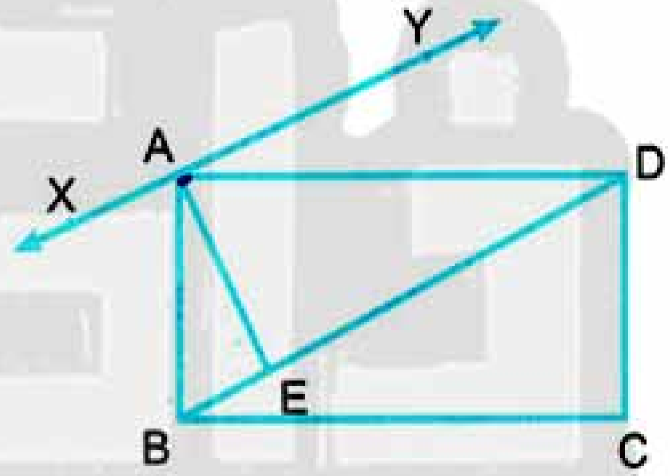
b $\overleftrightarrow{AE}$ ⊥ .... ($\overleftrightarrow{BD}$ or $\overleftrightarrow{AB}$ or $\overleftrightarrow{BC}$)

c $\overleftrightarrow{BC}$ // .... ($\overleftrightarrow{CD}$ or $\overleftrightarrow{AE}$ or $\overleftrightarrow{AD}$)

d $\overleftrightarrow{DC}$ // .... ($\overleftrightarrow{AE}$ or $\overleftrightarrow{AB}$ or $\overleftrightarrow{XY}$)

e $\overleftrightarrow{XY}$ // .... ($\overleftrightarrow{BC}$ or $\overleftrightarrow{AD}$ or $\overleftrightarrow{BD}$)

f $\overleftrightarrow{YX}$ ⊥ .... ($\overleftrightarrow{AE}$ or $\overleftrightarrow{AB}$ or $\overleftrightarrow{AD}$)



15 In the opposite figure , complete :

a $\overleftrightarrow{AF}$ // ....

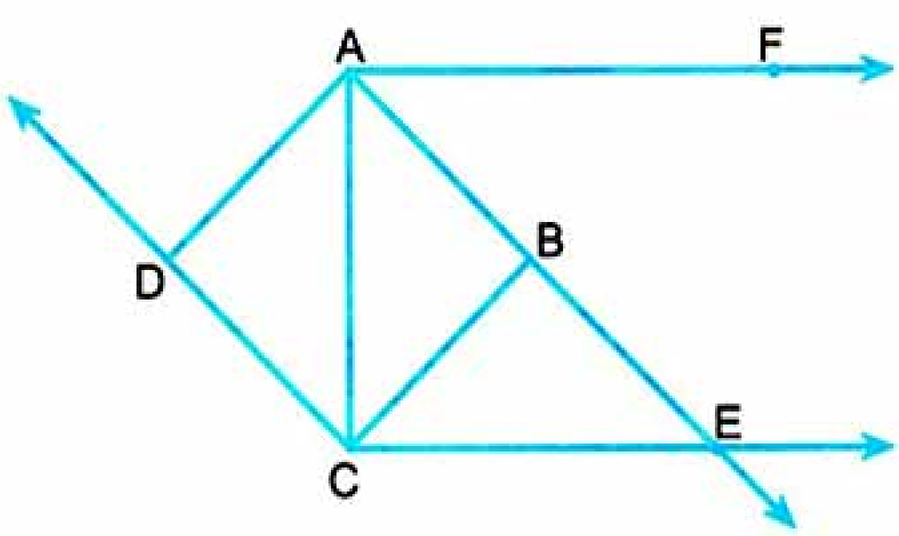
b $\overleftrightarrow{AD}$ ⊥ .... or ....

c $\overleftrightarrow{AB}$ // ....

d $\overleftrightarrow{CE}$ ⊥ ....

e $\overleftrightarrow{AE}$ intersects $\overleftrightarrow{CE}$ at the point ....

f $\overleftrightarrow{AF}$ intersects $\overleftrightarrow{AD}$ at the point ....



Think and answer

Put (✓) for the correct statement and (×) for the incorrect one :

a From a point outside a straight line , we can draw many straight lines parallel to this line. (   )

b From a point outside a straight line , we can draw one and only one straight line perpendicular to this line. (   )

c Any two parallel lines may intersect if they are extended. (   )

d Any two intersecting lines are perpendicular. (   )

e Only one straight line perpendicular to a line that can be drawn from a point on this line. (   )

f The two perpendicular lines form five right angles. (   )

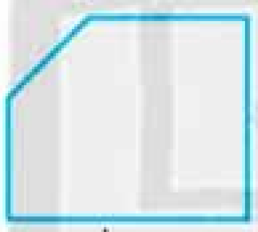


LESSON 2

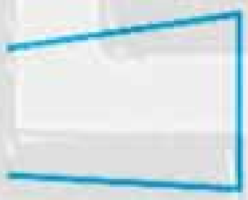
Polygons

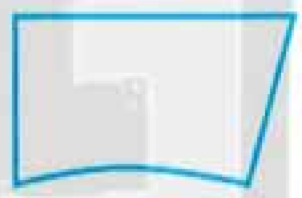
• The polygon :

is a closed shape formed from three line segments (sides) or more.


polygon

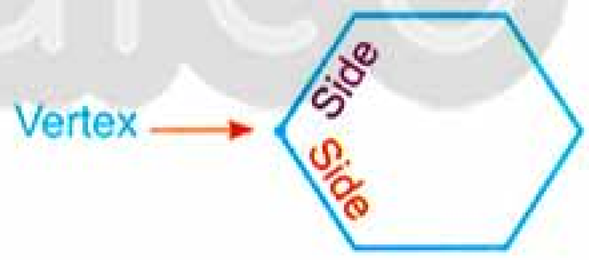

not polygon


not polygon


not polygon

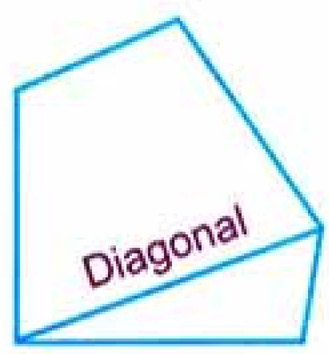
• Vertex of the polygon :

is the intersection point of each two adjacent sides.



• Diagonal of the polygon :

is the line segment joining any two non-consecutive vertices.

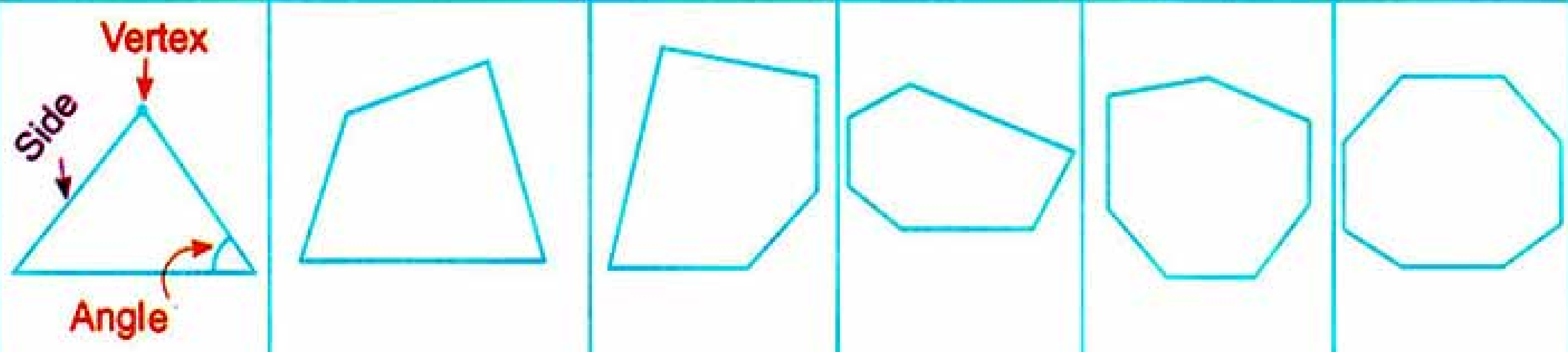


• Name of the polygon :

Polygons are named by the number of sides they have.

Lesson 2

For example :



Triangle	Quadrilateral	Pentagon	Hexagon	Heptagon	Octagon
3 sides , 3 angles 3 vertices	4 sides , 4 angles 4 vertices	5 sides , 5 angles 5 vertices	6 sides , 6 angles 6 vertices	7 sides , 7 angles 7 vertices	8 sides , 8 angles 8 vertices

From the previous table , we notice that :

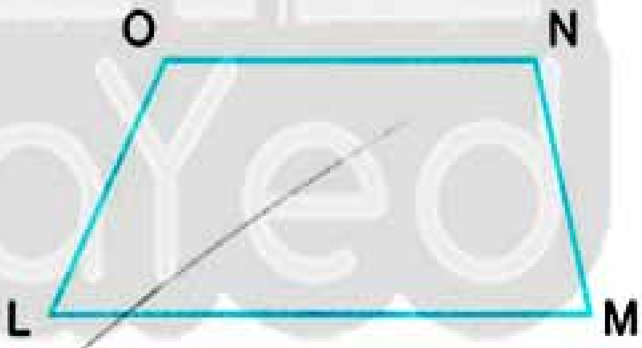
The number of sides of any polygon is equal to the number of its vertices and equal to the number of its angles.

Some quadrilateral shapes

(1) Trapezium

Trapezium is a quadrilateral in which :

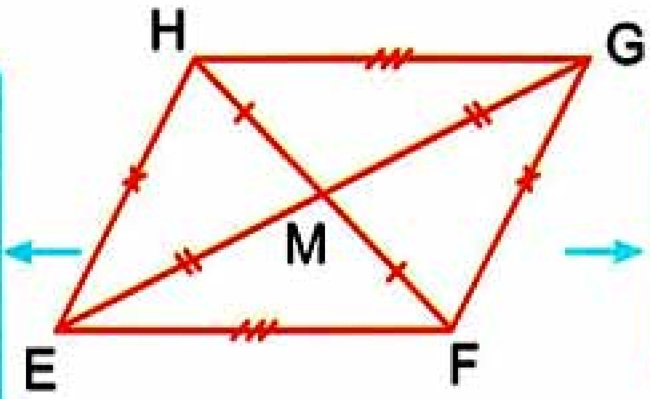
Only two opposite sides are parallel and not equal in length ($\overline{LM}$ // $\overline{NO}$, LM ≠ NO)



(2) Parallelogram

Parallelogram is a quadrilateral in which:

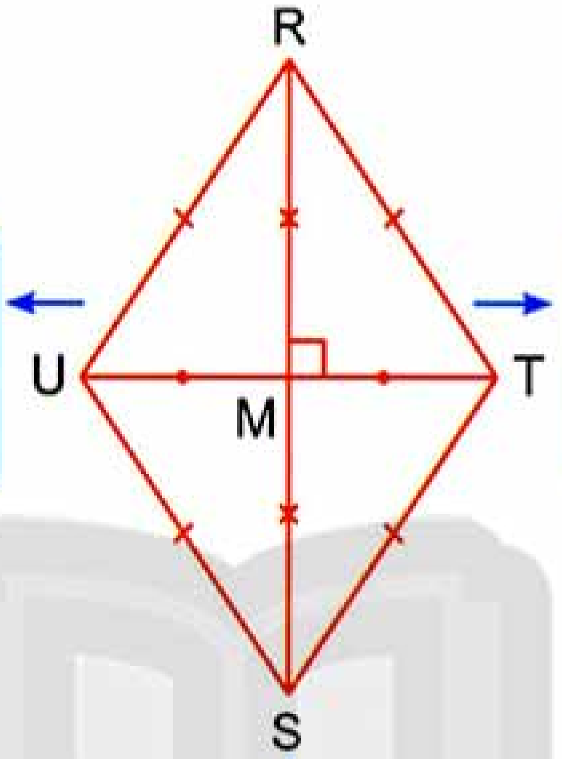
Each two opposite sides are equal in length and parallel
- EF = HG , GF = HE
- $\overline{EF}$ // $\overline{HG}$, $\overline{GF}$ // $\overline{HE}$



Its two diagonals bisect each other
EM = MG , FM = MH

(3) Rhombus

Rhombus is a quadrilateral in which :



Its sides are equal in length
ST = TR = RU = US

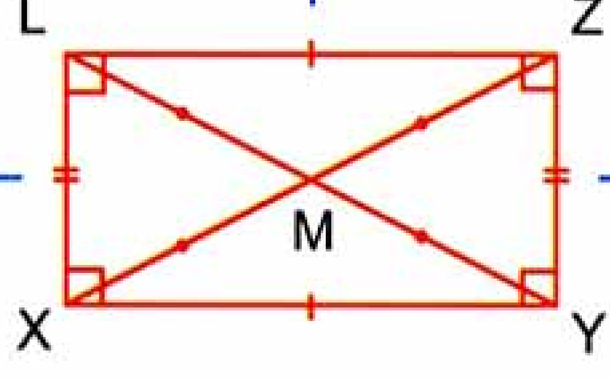
Each two opposite sides are parallel
$\overline{SU} \parallel \overline{TR}$, $\overline{ST} \parallel \overline{UR}$

Its two diagonals :
- bisect each other
  UM = MT , SM = MR
- are perpendicular
  $\overline{RS} \perp \overline{UT}$

(4) Rectangle

Rectangle is a quadrilateral has the following properties :

Each two opposite sides are equal in length and parallel
- XY = LZ , ZY = LX
- $\overline{XY} \parallel \overline{LZ}$, $\overline{YZ} \parallel \overline{LX}$



Its angles are equal in meaasure , each of them equals 90°
m (∠ X) = m (∠Y) = m (∠ Z) = m (∠ L) = 90°

Its two diagonals :
- are equal in length
  XZ = YL
- are not perpendicular
  $\overline{XZ} \not\perp \overline{YL}$
- bisect each other
  XM = MZ , YM = ML

Lesson 2

How to draw a rectangle if you know its dimensions

Now : By using the rectangle properties , draw the rectangle XYZL whose two dimensions are 5 cm. and 3 cm.

To draw the rectangle XYZL , follow the following steps :

Step 1

Draw $\overline{XY}$ of length 5 cm. using the ruler.

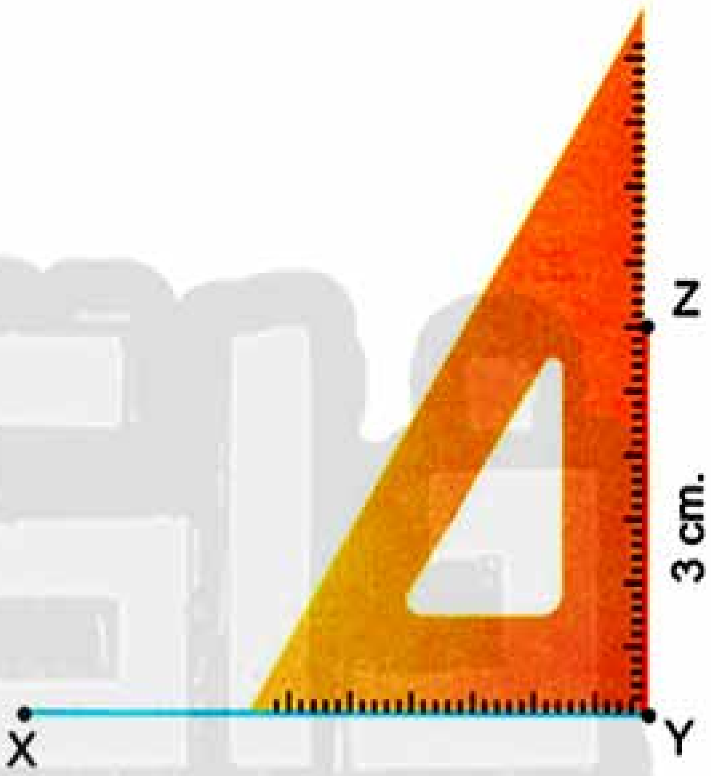


Step 2

From Y ,

draw $\overline{YZ} \perp \overline{XY}$ such that

YZ = 3 cm. using the set square.

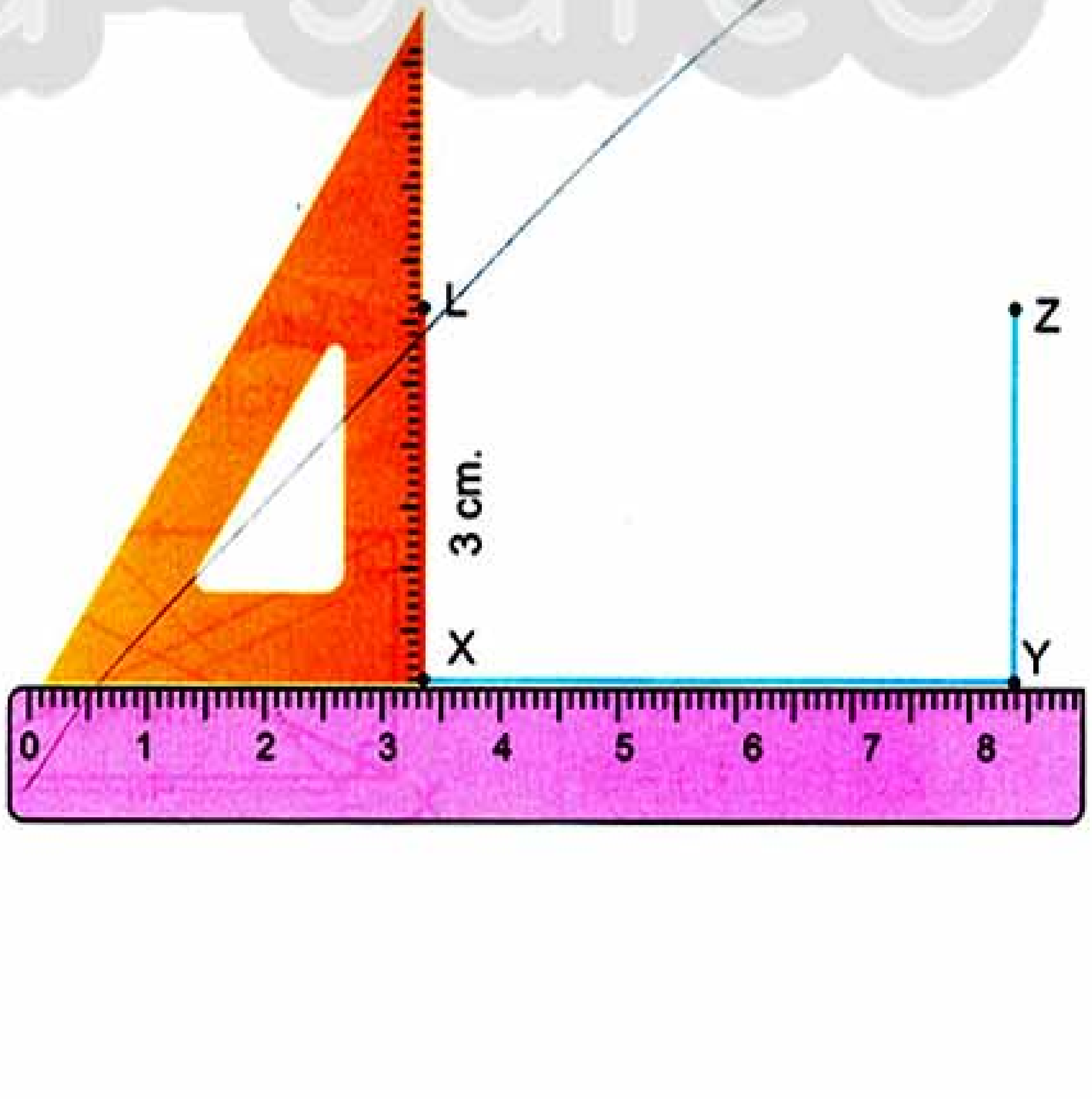


Step 3

By the same way ,

draw $\overline{XL} \perp \overline{XY}$ such that

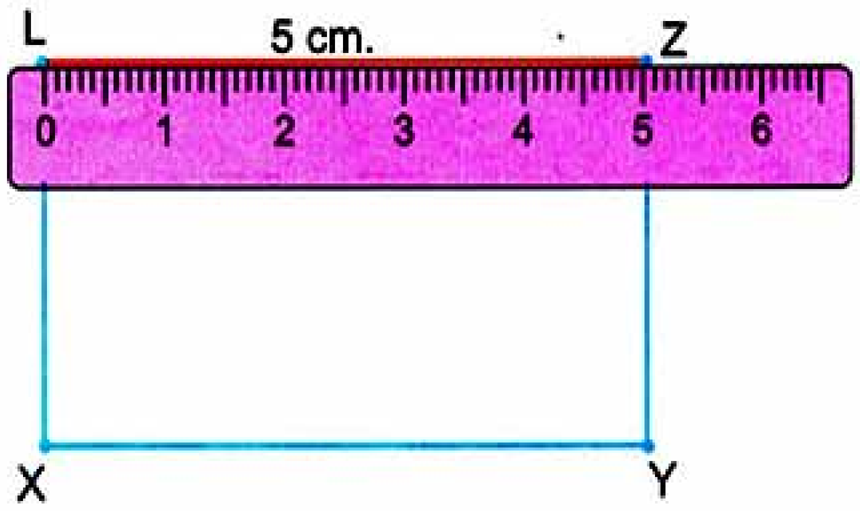
XL = 3 cm.



Step 4

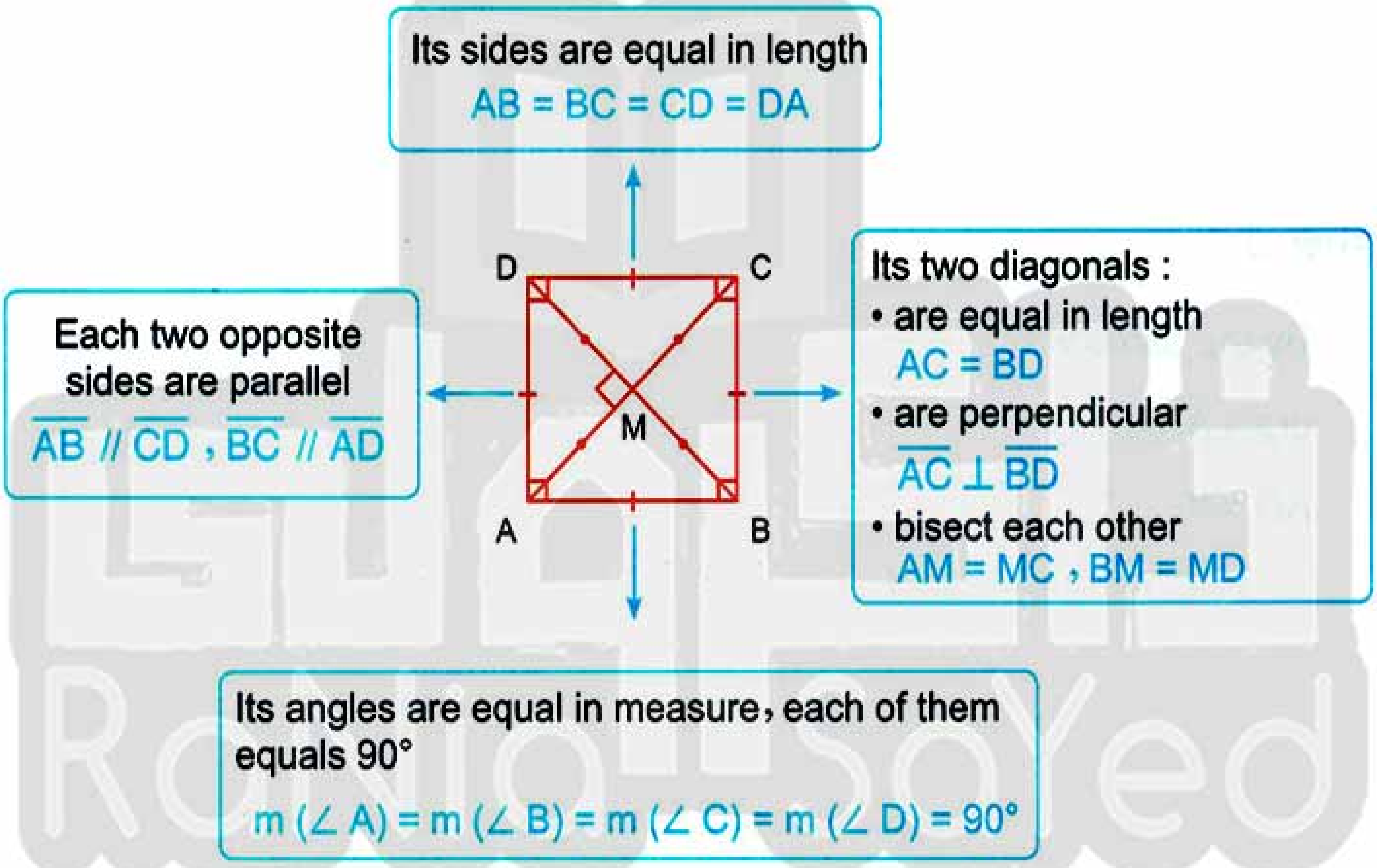
Finally draw $\overline{LZ}$

and make sure that LZ = 5 cm.



(5) Square

Square is a quadrilateral has the following properties :



How to draw a square if you know the length of its side

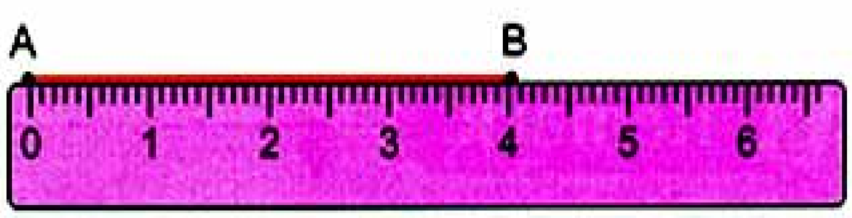
Now : By using the square properties draw the square ABCD of side length 4 cm.

To draw the square ABCD , follow the following steps :

Step 1

Draw $\overline{AB}$ of length 4 cm.

using the ruler.



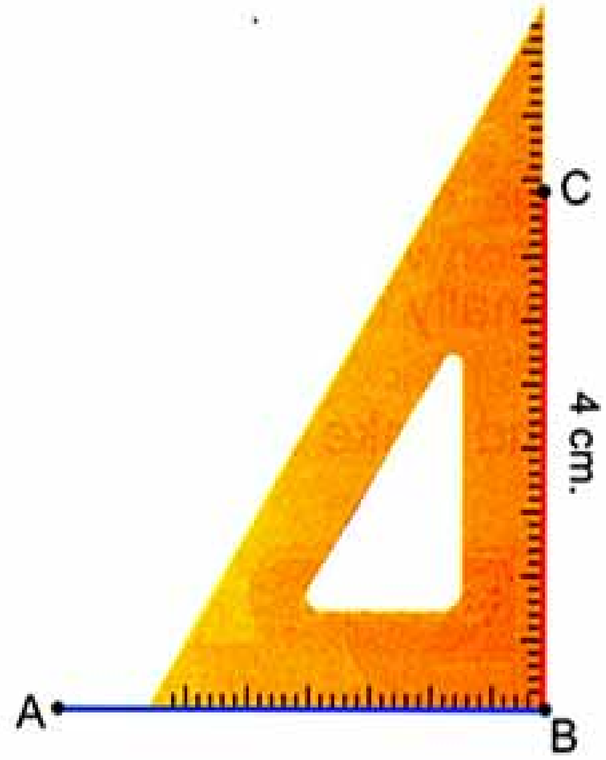
Lesson 2

Step 2

From B draw $\overline{BC} \perp \overline{AB}$

such that CB = 4 cm.

using the set square.

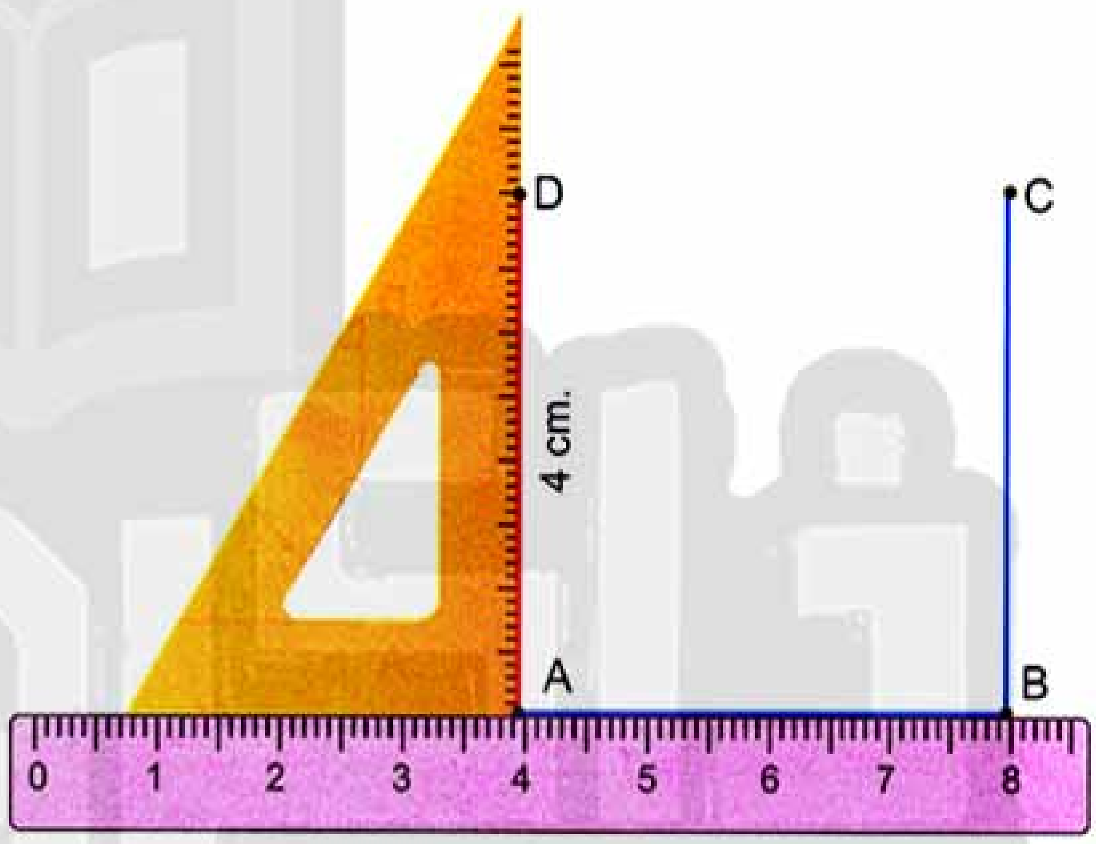


Step 3

By the same way ,

draw $\overline{AD} \perp \overline{AB}$ such that

AD = 4 cm.

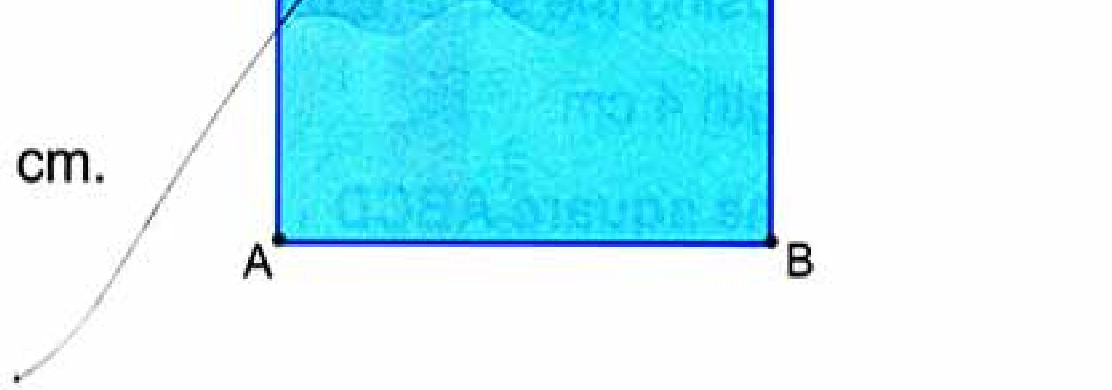


Step 4

Finally , draw

$\overline{DC}$ using the ruler

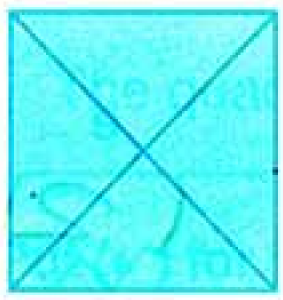
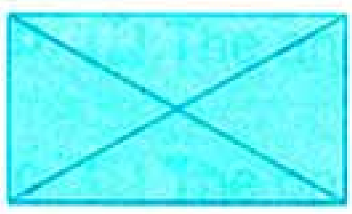
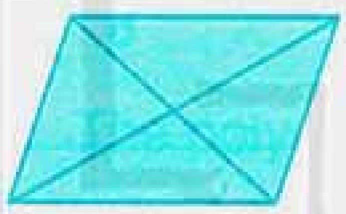
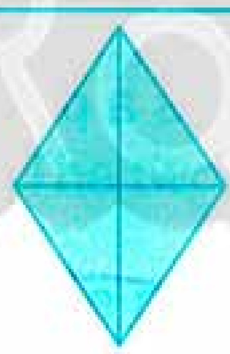
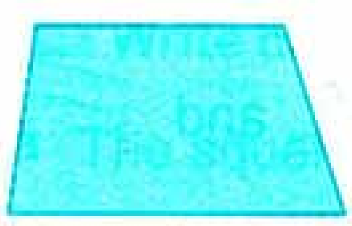
and make sure that DC = 4 cm.



Remark

The two perpendicular lines on the same line are parallel lines.

Summary

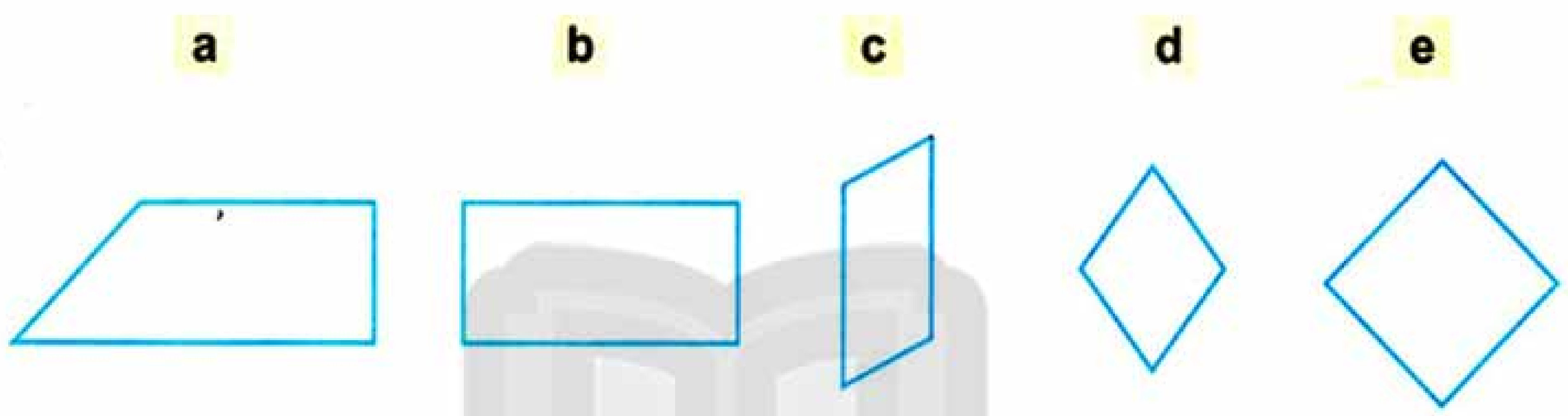
Shape	Its sides	Its angles	Its diagonals
 Square	- Its sides are equal in length. - Each two opposite sides are parallel.	Its angles are right angles (90°)	Its diagonals are perpendicular , equal in length and bisect each other.
 Rectangle	Each two opposite sides are equal in length and parallel.	Its angles are right angles (90°)	Its diagonals are equal in length and bisect each other.
 Parallelogram	Each two opposite sides are equal in length and parallel.	—	Its diagonals bisect each other.
 Rhombus	- Its sides are equal in length. - Each two opposite sides are parallel.	—	Its diagonals are perpendicular and bisect each other.
 Trapezium	Has only two opposite sides are parallel and not equal in length.	—	—

EXERCISE 8

Polygons

From the school book

1 Join each figure to its name :



Rectangle	Trapezium	Triangle	Rhombus	Square	Parallelogram
1	2	3	4	5	6

2 Complete :

a The polygon which has four sides is called a ....

b The hexagon is a polygon with .... sides , but the .... is a polygon with three sides.

c The number of vertices of the hexagon = ...

d In the square , all angles are .... angles.

e The two diagonals of the rectangle are .... and ....

f In the parallelogram , every two opposite sides are .... and ....

g Each two opposite sides are parallel in .... , ... , ... and ....

h Each two opposite sides are equal in length in .... , ... , ... and ....

i The four sides are equal in length in .... and ....

j The four angles are right in .... and ....

k The two diagonals in .... and .... are equal in length and bisect each other.

l The quadrilateral has .... diagonals.

3 Put (✓) for the correct statement and (✗) for the incorrect one and correct the mistake :

a The sides of the square are equal in length. (   )

b The angles of the rectangle are right. (   )

c The opposite sides in the parallelogram are parallel. (   )

d The diagonals of the rectangle are not equal in length. (   )

e The rhombus has only one pair of parallel sides. (   )

f The polygon which has no diagonals is a triangle. (   )

g The measure of any angle of the square = 45° (   )

h The polygon which has five angles is called a heptagon. (   )

i The two diagonals of the square are perpendicular. (   )

j The number of sides of any polygon is equal to the number of its vertices. (   )

4 Write only one difference between each of the following :

a The square and the rectangle.

b The rhombus and the parallelogram.

c The square and the cube.

5 Draw :

a The square ABCD with side length 6 cm.

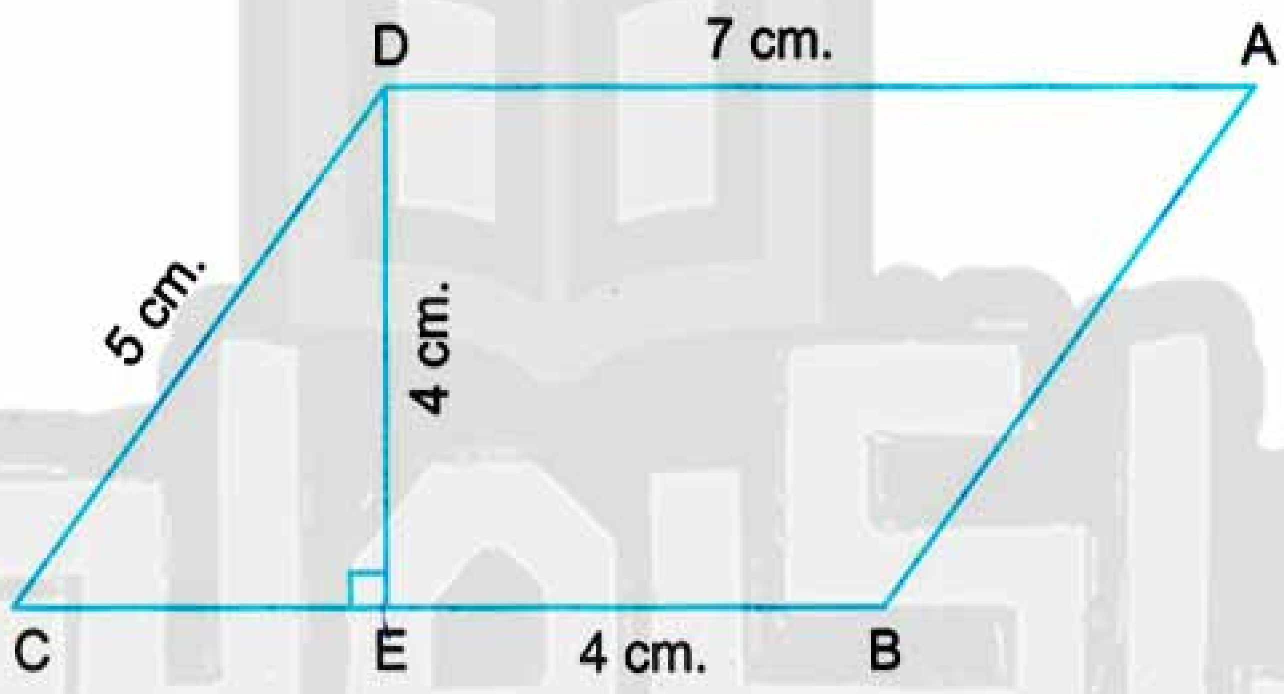
b The rectangle XYZL with dimensions 5 cm. and 3 cm.

c The square MNOP of side length 3 cm.

d The rectangle EFGH where EF = 8 cm. and FG = 5 cm.

---

6 In the opposite figure : ABCD is a parallelogram , complete :



a $\overline{DE} \perp$ ....

b $\overline{AB}$ // ....

c The shape ABED is ....

d The perimeter of ABED is ....

e The perimeter of Δ DEC is ....

---

7 Draw the square ABCD whose side length is 4 cm. , then complete :

a AB = ... = ... = ... = ... cm.

b $\overline{AB}$ // .... and $\overline{BC}$ // ....

c $\overline{AB} \perp$ .... , $\overline{CD} \perp$ .... and $\overline{BD} \perp$ ....

8 Draw the rectangle ABCD where AB = 4 cm. and BC = 3 cm. , then draw the two diagonals $\overline{AC}$ and $\overline{BD}$

Find using the ruler the length of $\overline{AC}$ and $\overline{BD}$, what do you notice ?

---

9 Draw the rectangle XYZL in which its dimensions are 5 cm. and 2 cm. , then complete :

a XY = ... = ... cm. and YZ = ... = ... cm.

b $\overline{XY}$ // .... and $\overline{XY}$ ⊥ ....

c $\overline{YZ}$ // .... and $\overline{YZ}$ ⊥ ....

---

10 Draw the rectangle ABCD of length 10 cm. and of width equal to $\frac{1}{2}$ its length, then find its perimeter.

Think and answer

Draw the rectangle ABCD whose two dimensions are 6 cm. and 4 cm., then draw $\overline{AC}$ and $\overline{BD}$ where N is the point of intersection.

Draw $\overline{NY}$ // $\overline{BC}$ to cut $\overline{DC}$ at Y , and $\overline{NX}$ // $\overline{CD}$ to cut $\overline{AD}$ at X

Name the figure NXDY, then find its perimeter using the ruler.

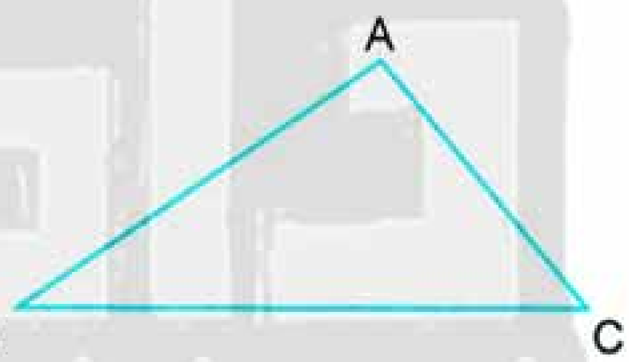


LESSON 3 The triangle

In the opposite figure :

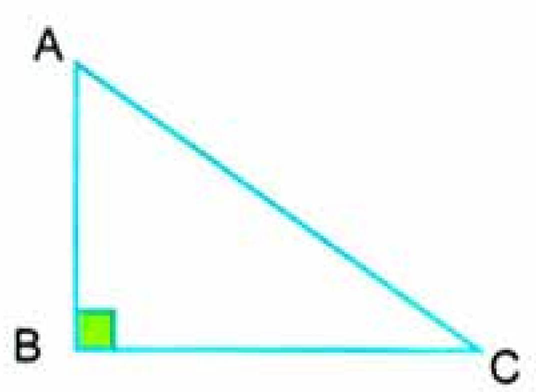
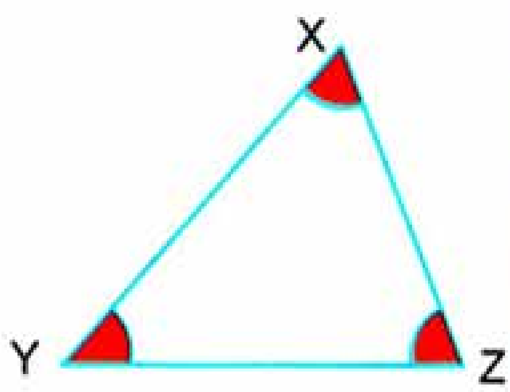
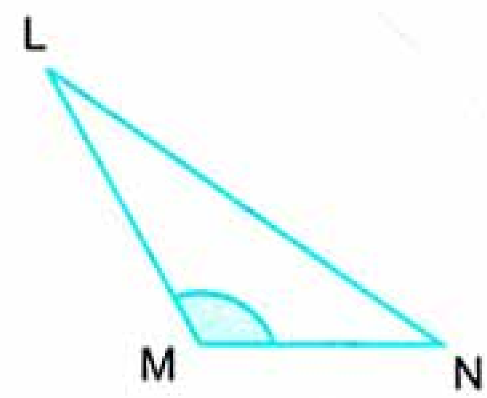
The triangle ABC has :

1. Three sides which are the line segments $\overline{AB}$, $\overline{BC}$ and $\overline{CA}$
2. Three vertices which are A , B and C
3. Three angles which are ∠ A , ∠ B and ∠ C



So , the triangle is a polygon that has three sides and three vertices.

Identifying the type of the triangle according to the measures of its angles

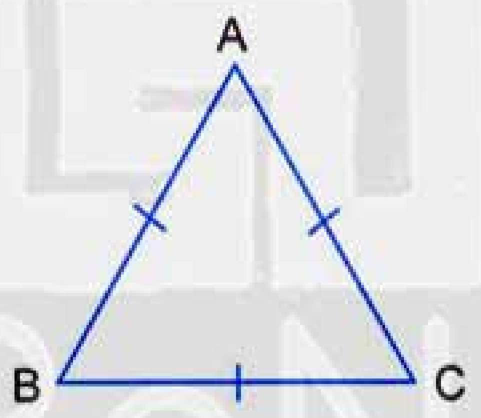
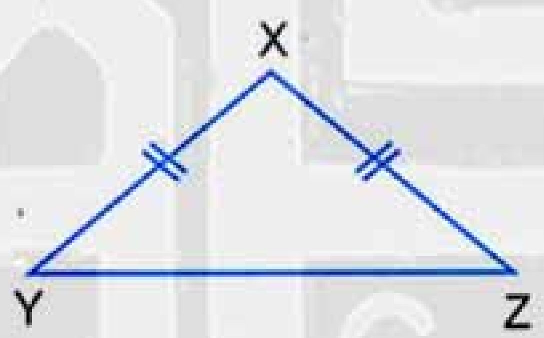
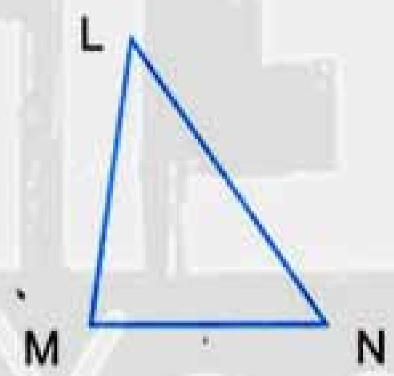
Right-angled triangle	Acute-angled triangle	Obtuse-angled triangle
		
It has only one right angle and two acute angles.	The three angles are acute angles.	It has only one obtuse angle and two acute angles.

Notice that :

In any triangle, if the greatest angle in measure is :

- right → then the triangle is a right-angled triangle
- acute → then the triangle is an acute-angled triangle
- obtuse → then the triangle is an obtuse-angled triangle

Identifying the type of the triangle according to the lengths of its sides

Equilateral triangle	Isosceles triangle	Scalene triangle
		
• The three sides are equal in length. (AB = BC = CA) • The three angles are equal in measure	• Two sides are equal in length. (XY = XZ)	• The three sides are different in length. (LN ≠ NM ≠ ML)

Remarks

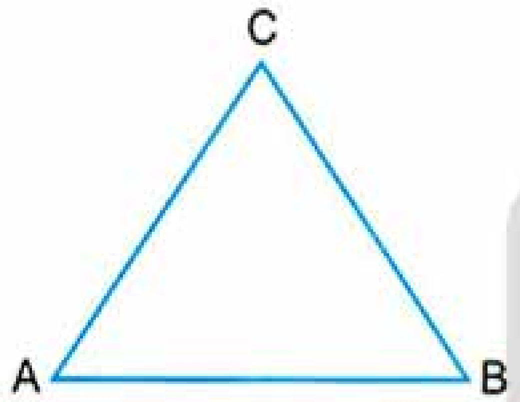
1. The equilateral triangle is an isosceles triangle.
2. The isosceles triangle is not an equilateral triangle.

Lesson 3

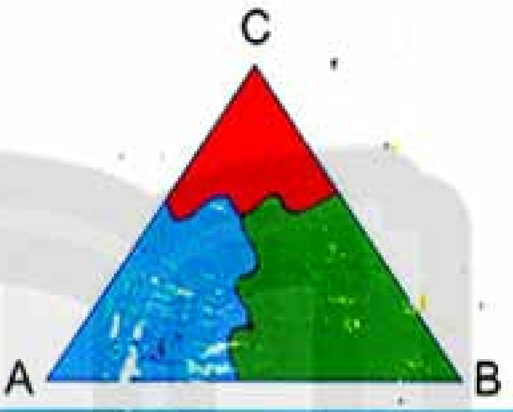
The sum of the measures of the interior angles of a triangle

Activity :

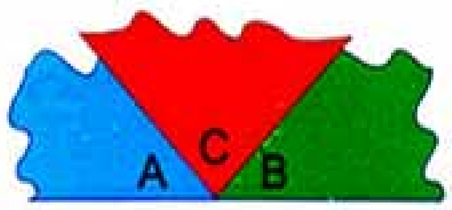
1. On a piece of paper , draw Δ ABC



2. Cut it into three parts and colour it as shown.



3. Put the three corners beside one another as shown.



We notice that :

The three angles together formed a straight angle and we know that the measure of the straight angle is 180° , then we deduce that :

The sum of the measures of the interior angles of any triangle = 180°

Remarks

1. The equilateral triangle is an acute-angled triangle the measure of each of its angles is 60°
2. Any triangle has at least two acute angles.
3. We cannot find two right angles in one triangle.
4. We cannot find two obtuse angles in one triangle.
5. In the right-angled triangle , the sum of the measures of the two acute angles is 90°

Drawing a triangle

First Drawing a triangle , given the lengths of two of its sides and the measure of the included angle.

Example *Draw the triangle ABC in which AB = 4 cm. , AC = 3 cm. and m (∠ A) = 70°*

Solution

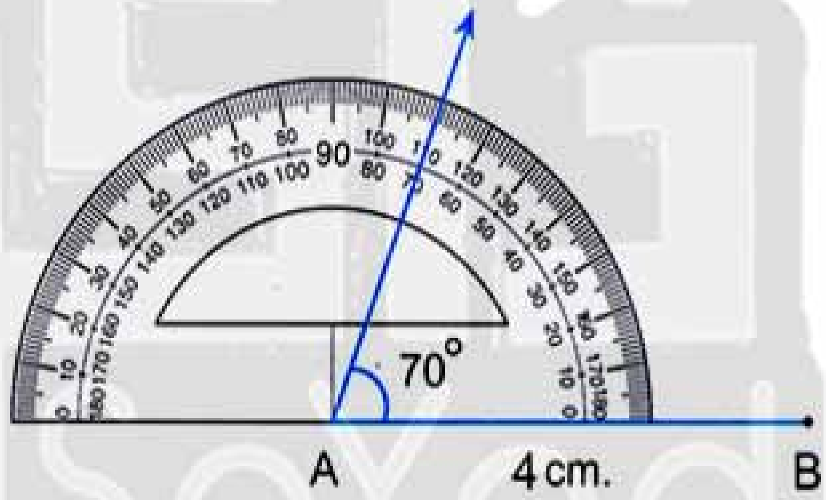
Step 1

Draw $\overline{AB}$ of length 4 cm. using the ruler.



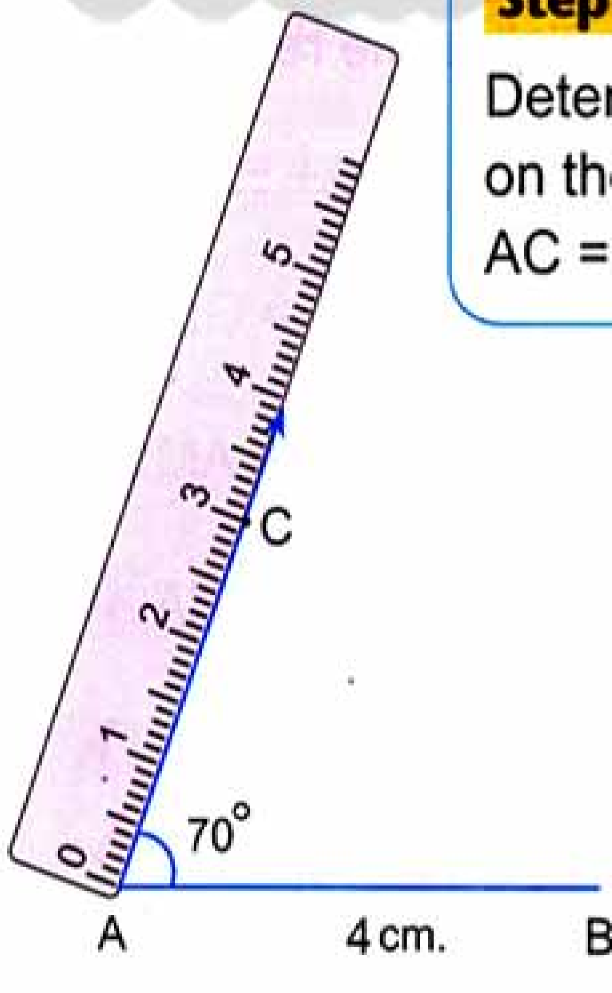
Step 2

Place the center point of the protractor on A and line up it and the 0° mark with $\overrightarrow{AB}$, place a dot on the scale at 70° , then draw a ray from A to this dot



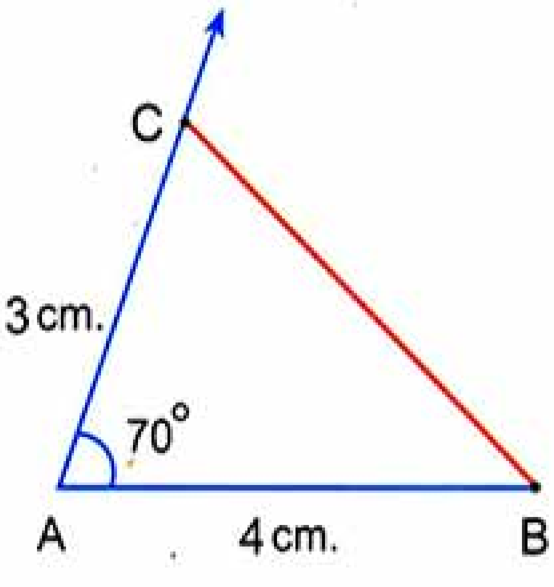
Step 3

Determine the point C on the ray such that AC = 3 cm.



Step 4

Draw $\overline{BC}$ to get Δ ABC which is the required triangle.



Second: Drawing a triangle, given the length of one side and the measures of two angles.

Example *Draw the triangle ABC in which AB = 5 cm. , m (∠ A) = 65° and m (∠ B) = 50°*

Solution

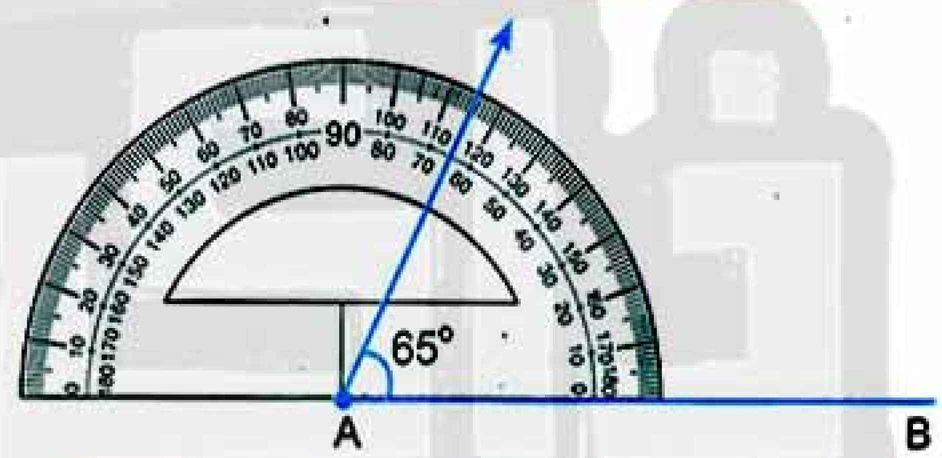
Step 1

Draw $\overline{AB}$ of length 5 cm., using the ruler



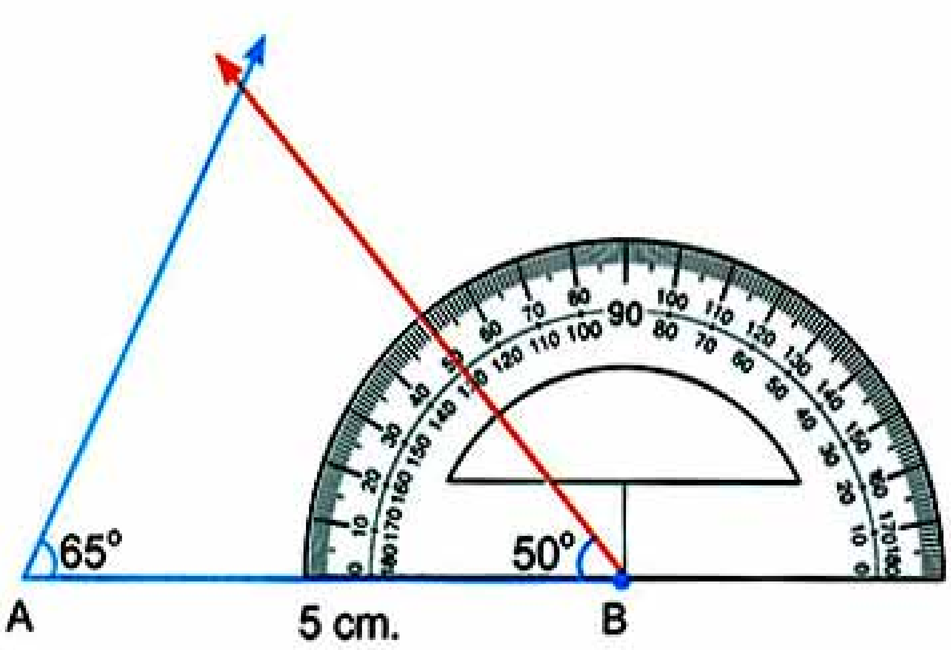
Step 2

Place the center of the protractor on A and line up it and 0° mark with $\overrightarrow{AB}$, place a dot on the scale at 65° , then draw a ray from A to this dot.



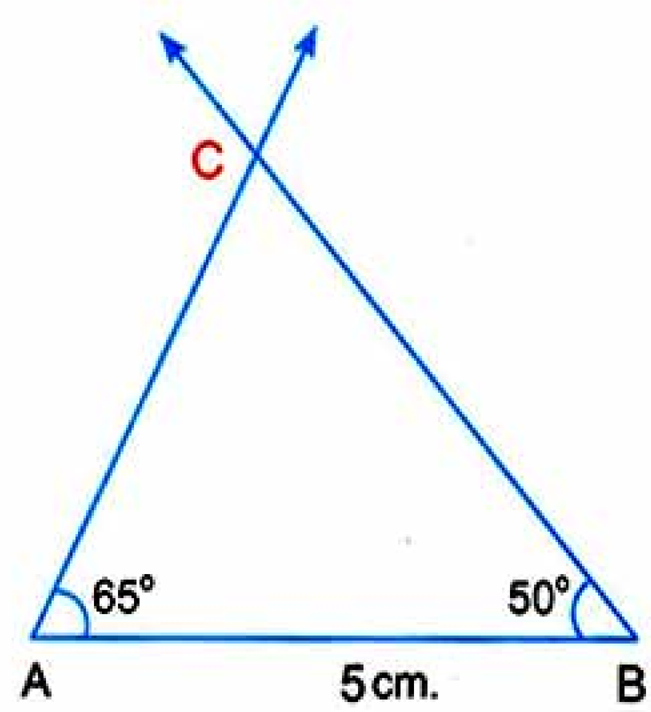
Step 3

By the same way draw a ray from B such that m (∠ B) = 50°



Step 4

Name the intersection point of the two rays "C" to get Δ ABC which is the required triangle.



EXERCISE 9

The triangle

From the school book

1 Determine the type of the triangles that the measures of their angles as the following :

a m (∠ E) = 30° , m (∠ F) = 90° and m (∠ G) = 60° " .... -angled triangle"

b m (∠ I) = 30° , m (∠ J) = 40° and m (∠ K) = 110° " .... -angled triangle"

c m (∠ S) = 51° , m (∠ T) = 67° and m (∠ U) = 62° " .... -angled triangle"

d m (∠ L) = 32° , m (∠ N) = 58° and m (∠ M) = 90° " .... -angled triangle"

e m (∠ X) = 46° , m (∠ Y) = 38° and m (∠ Z) = 96° " .... -angled triangle"

f m (∠ H) = m (∠ B) = 70° and m (∠ A) = 40° " .... -angled triangle"

g m (∠ A) = m (∠ B) = 45° and ∠ C is a right angle." .... -angled triangle"

h m (∠ D) = 66° and m (∠ E) = $\frac{1}{2}$ m (∠ D) " .... -angled triangle"

2 Determine the type of the triangles according to their side lengths using the following data :

a AB = 6 cm. , BC = 7 cm. and CA = 6 cm. "................ triangle"

b XY = 4 cm. , YZ = 8 cm. and ZX = 5 cm. "................ triangle"

c NO = 3 cm. , OR = 3 cm. and RN = 3 cm. "................ triangle"

d MA = AY = 9 cm. and YM = 10 cm. "................ triangle"

e AM = 10 cm. , MR = 7 cm. and RA = $\frac{1}{2}$ AM "................ triangle"

f m (∠ A) = m (∠ B) = m (∠ C) = 60° "................ triangle"

Lesson 3

3 Complete :

a The triangle is a polygon that has .... sides and .... angles.

b The equilateral triangle is a triangle whose sides are ....

c Any triangle has at least .... acute angles.

d The sum of measures of the interior angles of a triangle is ....

e The sum of measures of the two acute angles in the right-angled triangle is ....

f The triangle ABC is an equilateral triangle where AB = 5 cm. , then AC = ... cm. and BC = ... cm.

g The measure of each angle in the equilateral triangle is ....

h In the triangle ABC , if m (∠ A) = 57° and m (∠ B) = 46° , then m (∠ C) = ...

i In the triangle XYZ , if m (∠ X) = 70° and m (∠ Y) = m (∠ Z) , then m (∠ Z) = ...

j In the triangle ABC , if m (∠ A) = 27° and m (∠ B) = 2 m (∠ C) , then m (∠ C) = ...

---

4 Choose the correct answer from those between brackets :

a If the side lengths of a triangle are different , then the triangle is called .... triangle. (equilateral or isosceles or scalene)

b The triangle whose side lengths are 7 cm. , 4 cm. and 7 cm. is called .... triangle. (equilateral or isosceles or scalene)

c The triangle whose side lengths are 8 cm. , 6 cm. and .... cm. is called scalene triangle. (8 or 6 or 4)

d The sum of measures of the interior angles of a triangle is twice of measure of .... angle. (straight or right or acute)

e 50° , 70° and 60° are the measures of angles of .... triangle. (obtuse-angled or right-angled or acute-angled)

5 Put (✓) for the correct statement and (✗) for the incorrect one :

a There can be two right angles in one triangle. (   )

b There can be three acute angles in one triangle. (   )

c In the triangle ABC , if m (∠ A) = 40° and m (∠ B) = 50° , then this triangle is a right-angled triangle. (   )

d All the angles of the obtuse-angled triangle are obtuse. (   )

e There can be a right angle and an obtuse angle in one triangle. (   )

f It is possible to draw a triangle with two obtuse angles. (   )

g The equilateral triangle is an isosceles triangle. (   )

h The isosceles triangle is an equilateral triangle. (   )

i The measure of the straight angle = the sum of the measures of the angles of a triangle. (   )

j We can draw a triangle, given the measures of its angles. (   )

---

6 Complete using (< , = or >) :

a The measure of the obtuse angle ☐ the measure of the straight angle.

b The measure of the straight angle ☐ the sum of measures of the interior angles of a triangle.

c The sum of measures of two acute angles ☐ the sum of measures of the interior angles of a triangle.

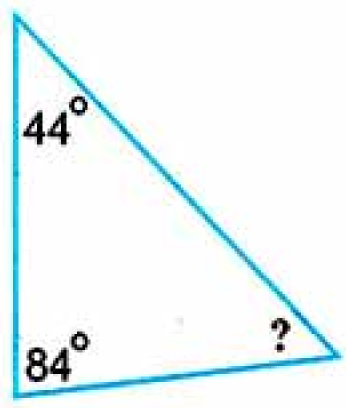
d The sum of measures of two right angles ☐ the sum of measures of the interior angles of a triangle.

e The sum of measures of two obtuse angles ☐ the sum of measures of the interior angles of a triangle.

f The sum of measures of the interior angles of a right-angled triangle ☐ the sum of measures of the interior angles of an acute-angled triangle.

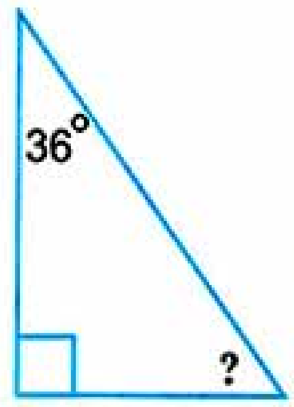
7 In each of the following triangles , find the measure of the angle that marked with " ? " "without using the protractor" :

a



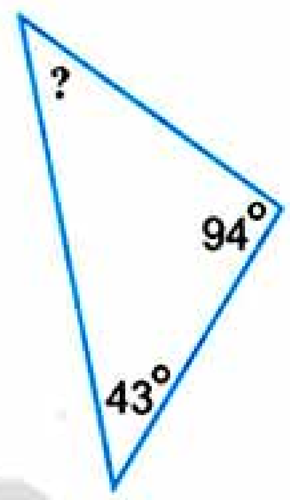
....

b



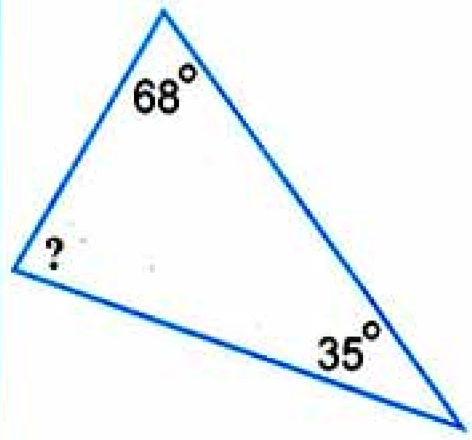
....

c



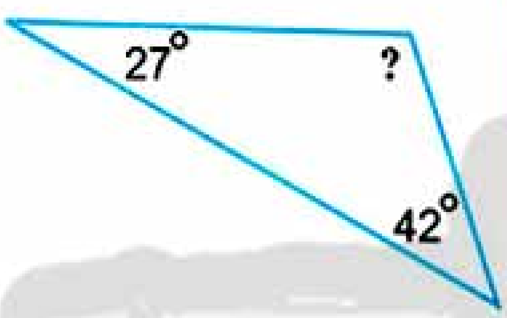
....

d



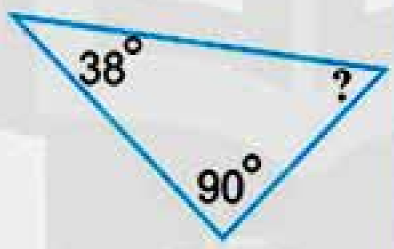
....

e



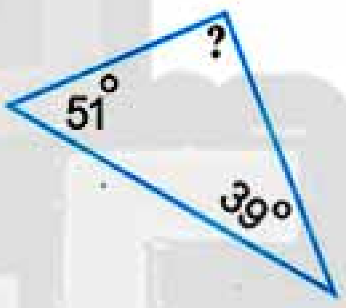
....

f



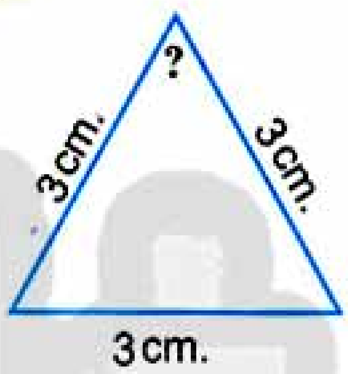
....

g



....

h



....

8 Which of the following can be measures of the angles of a triangle ?

a m (∠ X) = 53° , m (∠ Y) = 72° and m (∠ Z) = 55°

b m (∠ F) = 70° , m (∠ R) = 56° and m (∠ H) = 60°

c m (∠ Q) = 33° , m (∠ S) = 44° and m (∠ T) = 103°

d m (∠ A) = m (∠ B) = 40° and m (∠ C) = 88°

9 Draw the triangle ABC in which AB = 4 cm. , AC = 7 cm. and m (∠ A) = 65°

10 Draw the triangle LMN in which LM = 3 cm. , MN = 4 cm. and m (∠ M) = 90° , then find the length of $\overline{LN}$ and calculate the perimeter of the triangle.

11 Draw the triangle XYZ in which XY = YZ = 6 cm. and m (< Y) = 60° , find :

a The length of $\overline{XZ}$

b The type of the triangle according to the lengths of its sides.

c The type of the triangle according to the measures of its angles.

---

12 Draw Δ DEF in which DE = 5 cm. , EF = 6 cm. and m (∠ E) = 80°

a What is the sum of the measures of the two angles ∠ FDE and ∠ DFE ?

b Use the protractor to find m (∠ DFE)

c Calculate m (∠ FDE) "without measuring"

d What is the type of Δ DEF according to the measures of its angles and to its side lengths ?

---

13 Draw the triangle ABC in which AB = BC = 4 cm. and m (∠ B) = 70° and determine the type of the triangle ABC according to the measures of its angles and to the lengths of its sides.

---

14 Draw Δ ABC in which AB = 6 cm. , m (∠ A) = 50° and m (∠ B) = 75°

---

15 Draw Δ XYZ in which XZ = 10 cm. , m (< X) = 30° and m (∠ Z) = 60°, then find the length of $\overline{YZ}$

---

16 Draw the triangle XYZ in which XY = 5 cm. and m (∠ X) = m (< Y) = 60°, then find :

a m (∠ Z)

b The length of $\overline{YZ}$ and $\overline{ZX}$

c The type of the triangle according to the measures of its angles.

Lesson 3

17 Draw Δ LMN in which MN = 6 cm. , m (∠ M) = 40° and m (∠ N) = 70°

- **a** Without using the protractor , find m (∠ L)
- **b** What is the type of the triangle according to the measures of its angles ?
- **c** What is the type of the triangle according to its side lengths ? (measure the lengths of the sides)

---

18 Draw the triangle ABC in which AB = 10 cm. , m (∠ A) = 55° and m (∠ B) = 35° , then find :

- **a** The measure of ∠ C
- **b** The type of the triangle ABC according to the measures of its angles and to the lengths of its sides.

---

19 Draw the triangle XYZ which is right-angled at Y , YZ = 5 cm. and m (∠ Z) = 60° Find the length of $\overline{XZ}$, then without using the protractor find m (∠ X)

Think and answer

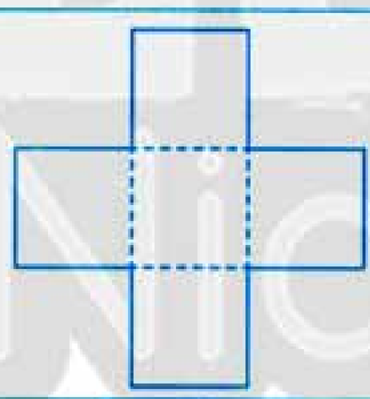
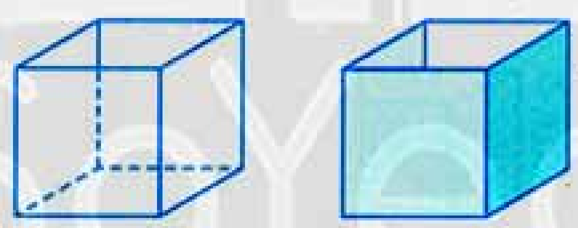
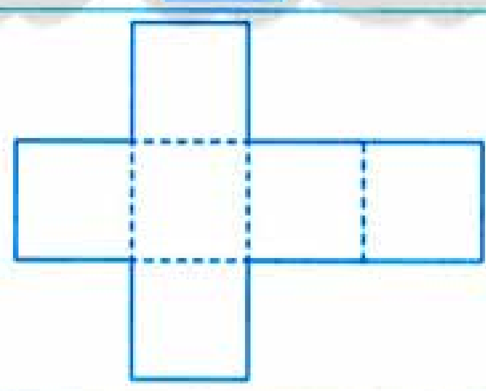
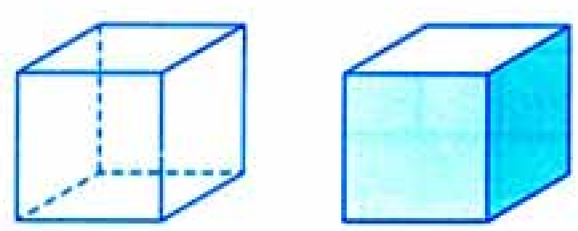
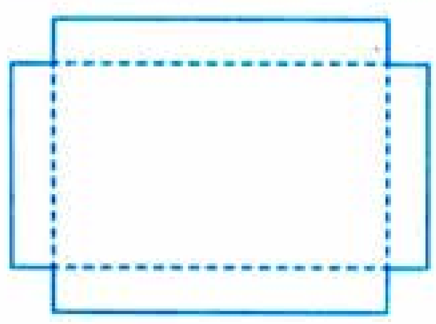
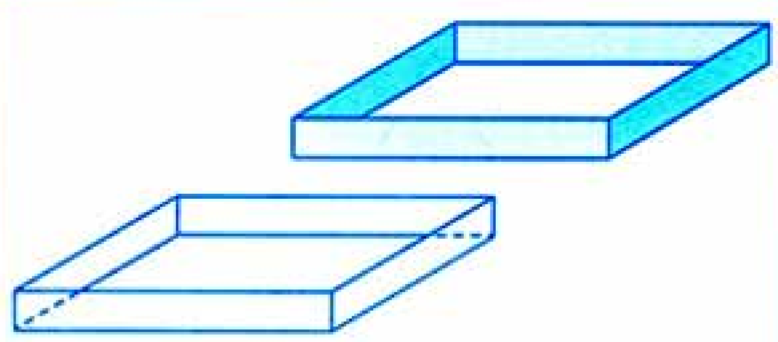
Draw Δ ABC in which m (∠ A) = 70°, m (∠ B) = 30° and AC = 4 cm. , then determine the type of the triangle.



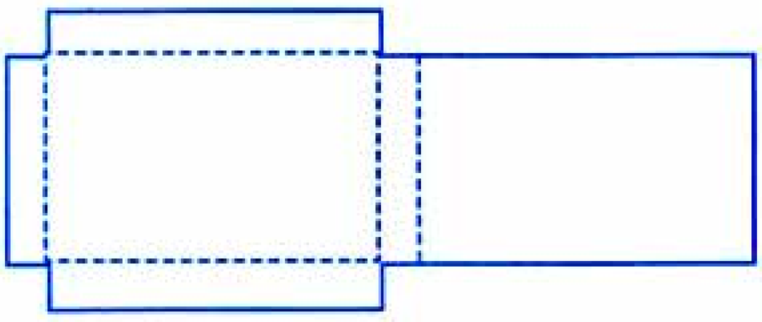
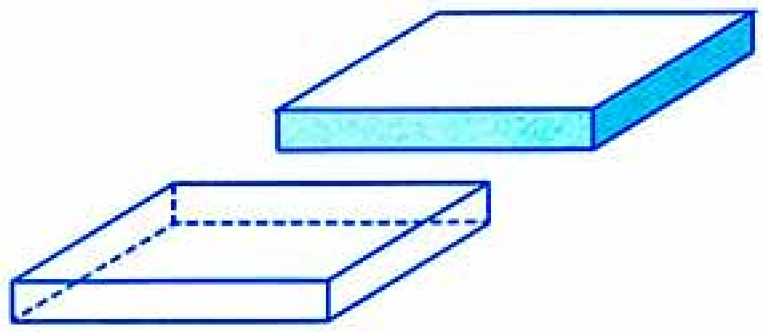
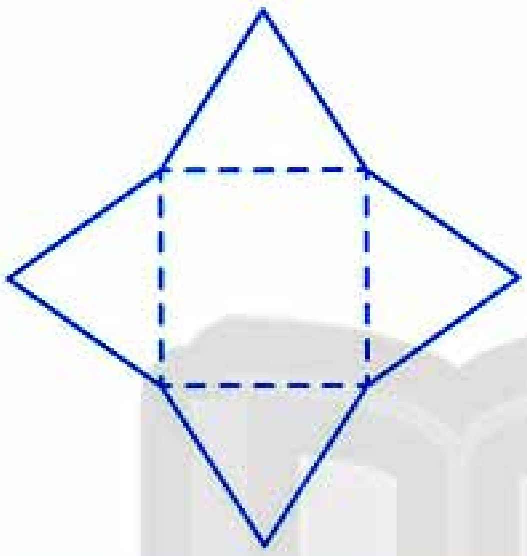
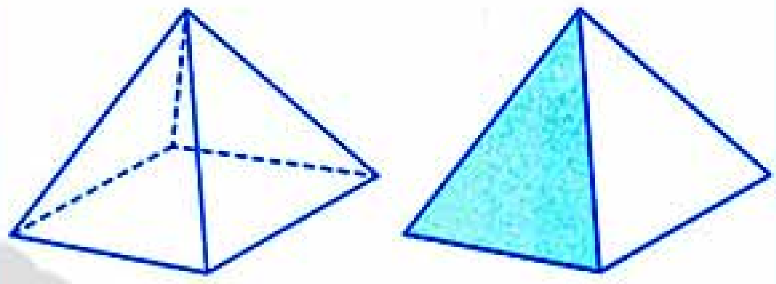
LESSON 4

Applications

How can you make a solid (cube – cuboid – pyramid) by using cardboard paper ?

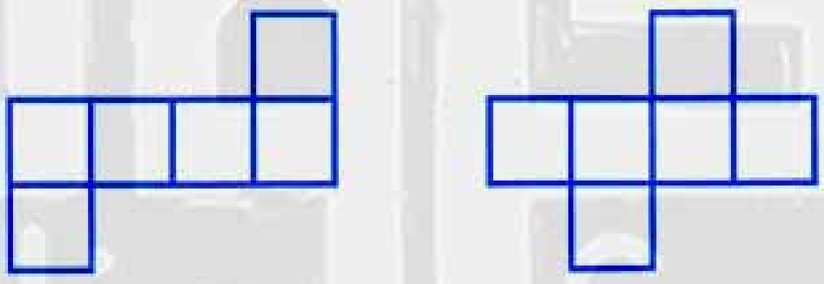
The name of the solid	Bring a piece of cardboard and cut it as this figure	Use folding and glue to form the solid
The cube (without a lid)		
The cube (with a lid)		
The cuboid (without a lid)		

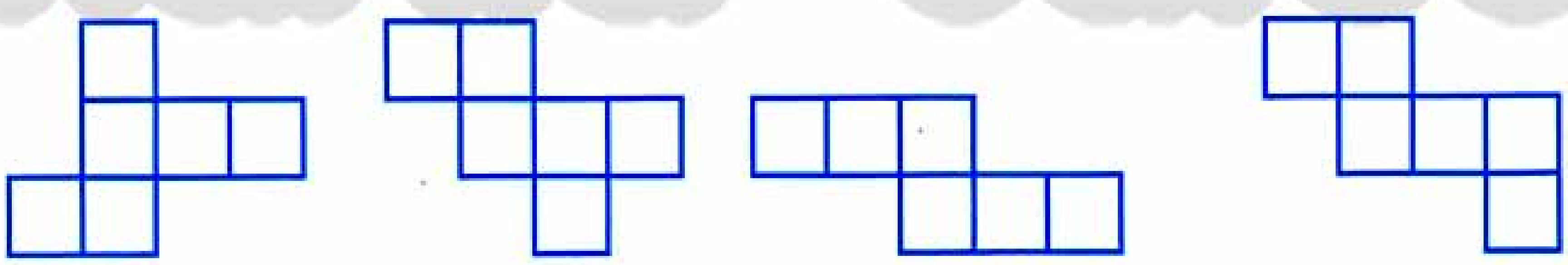
Lesson 4

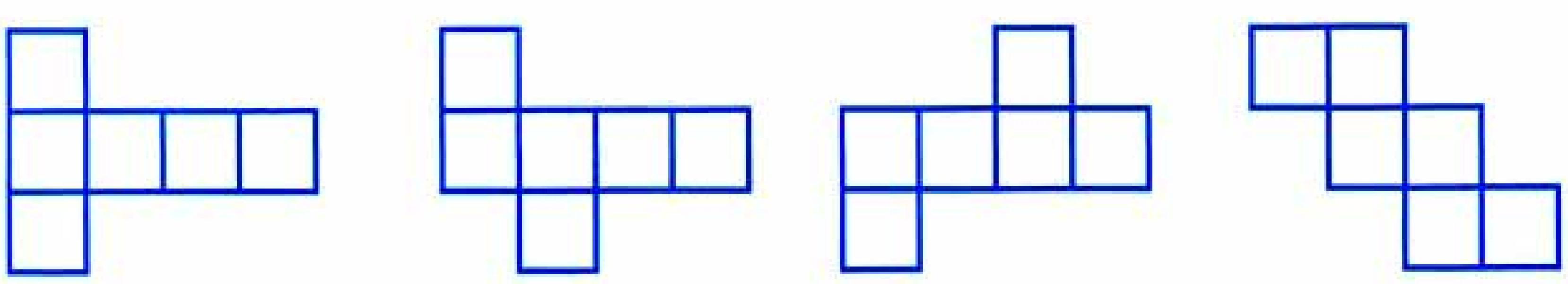
The cuboid (with a lid)		
The pyramid (with square - shaped base)		

Remark

There are other ten different ways to make a cube with a lid.





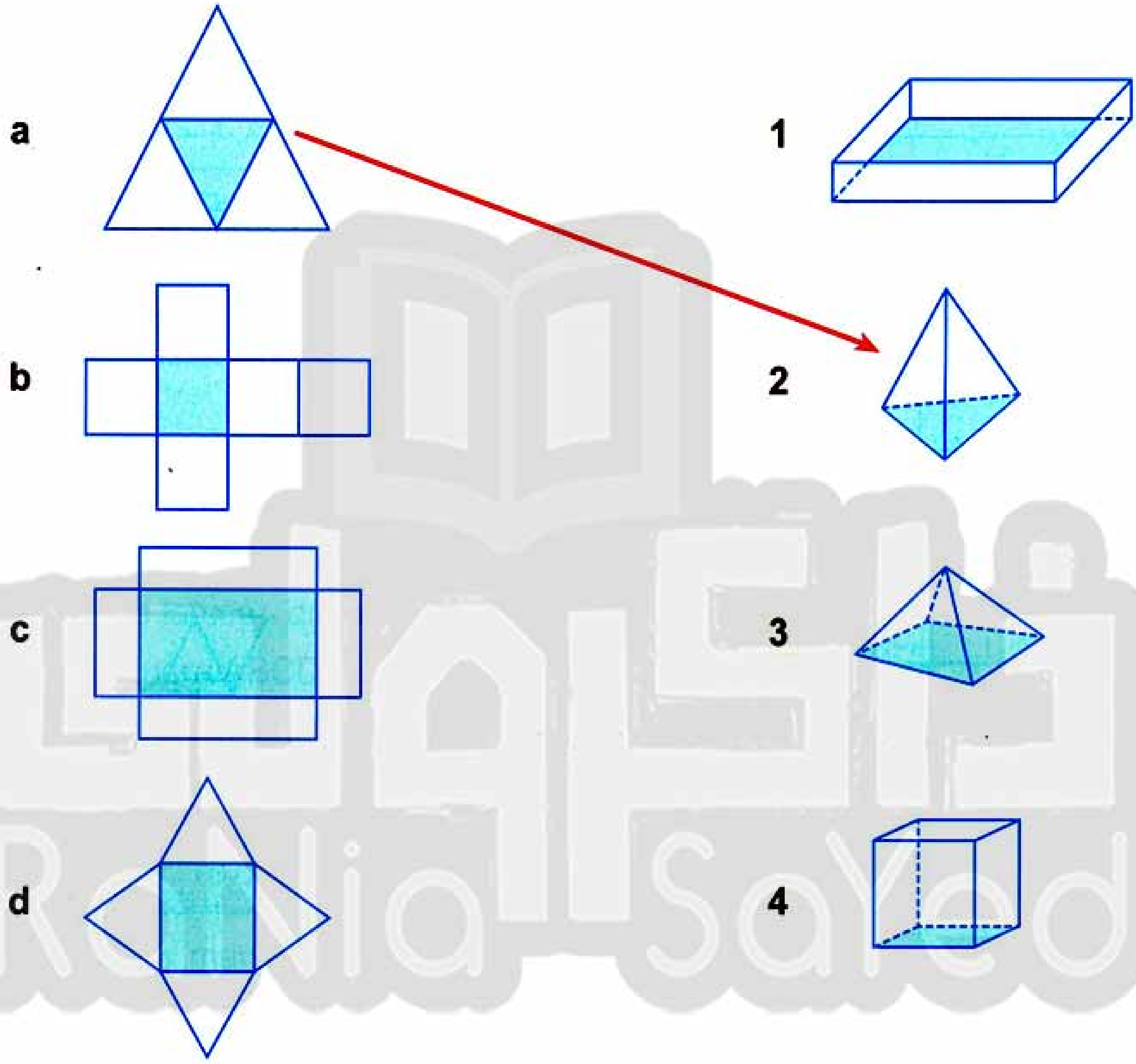


EXERCISE 10

Applications

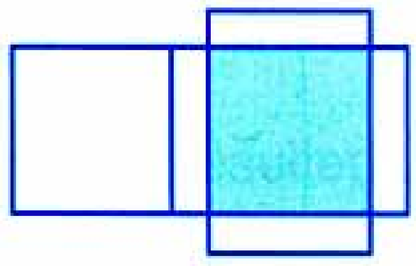
From the school book

1 Match each figure of the following with the solid that can be formed from it :

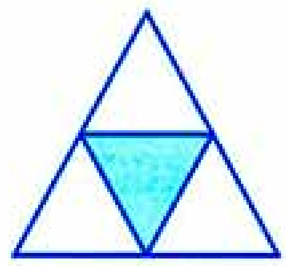


2 Name the figure you can form when you fold each of the following figures :

a

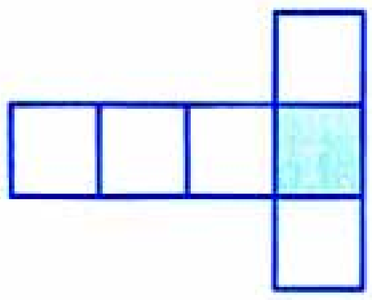


b

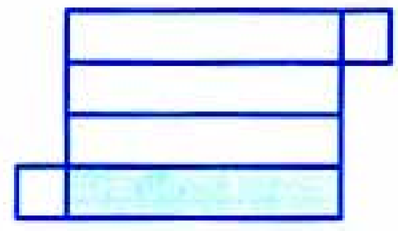


Lesson 4

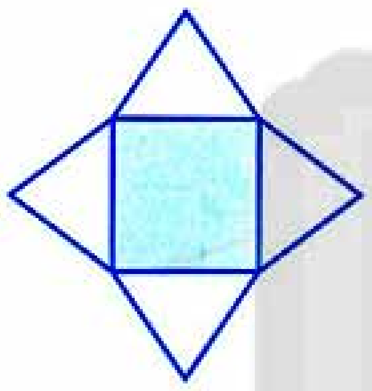
c



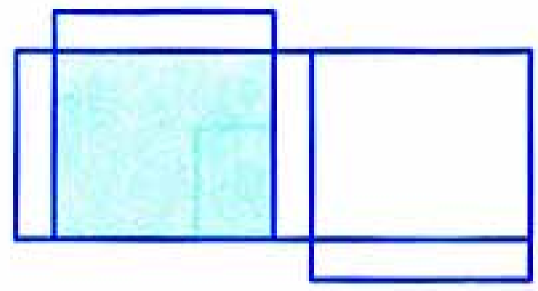
d



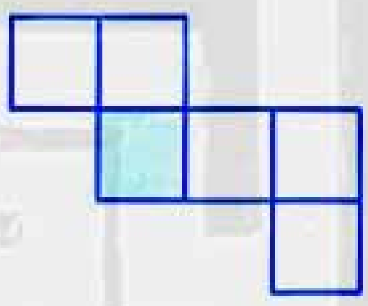
e



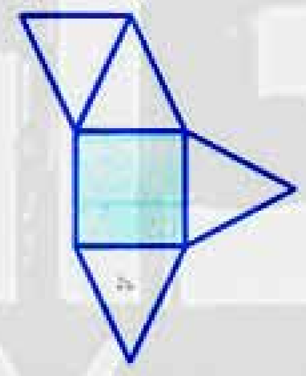
f



g

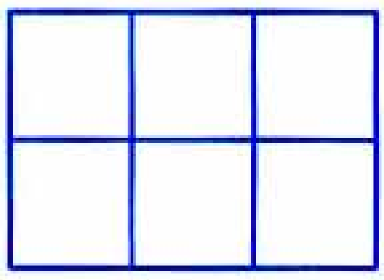


h

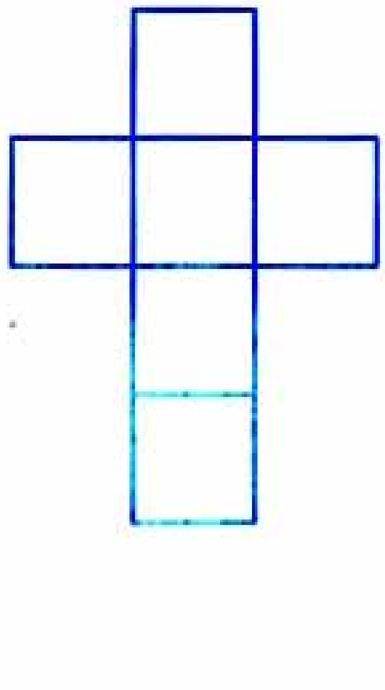


3 Among the following figures , colour those which can make a cube :

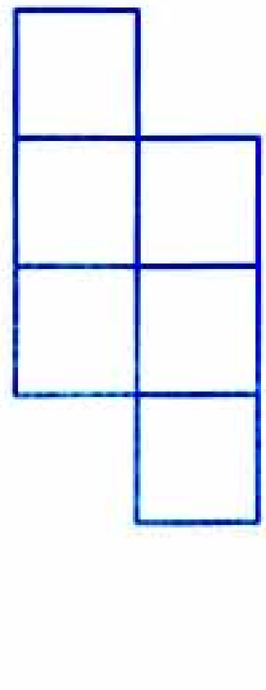
a



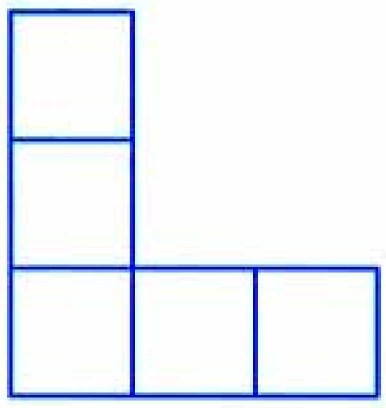
b



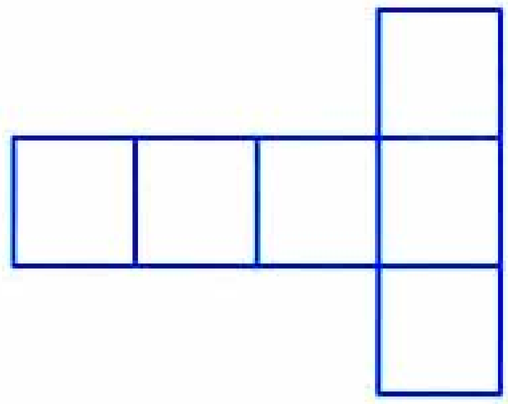
c



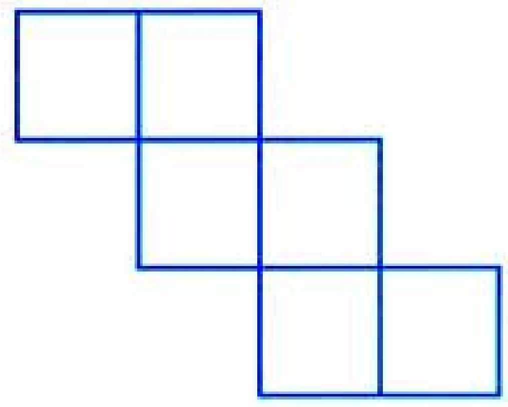
d



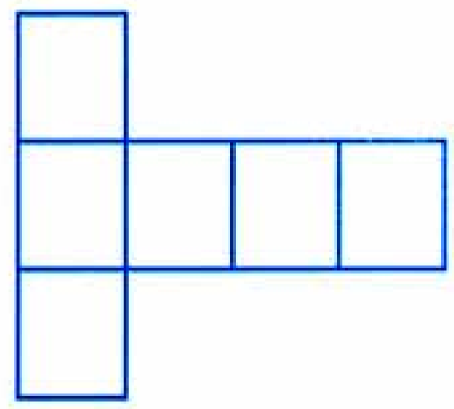
e



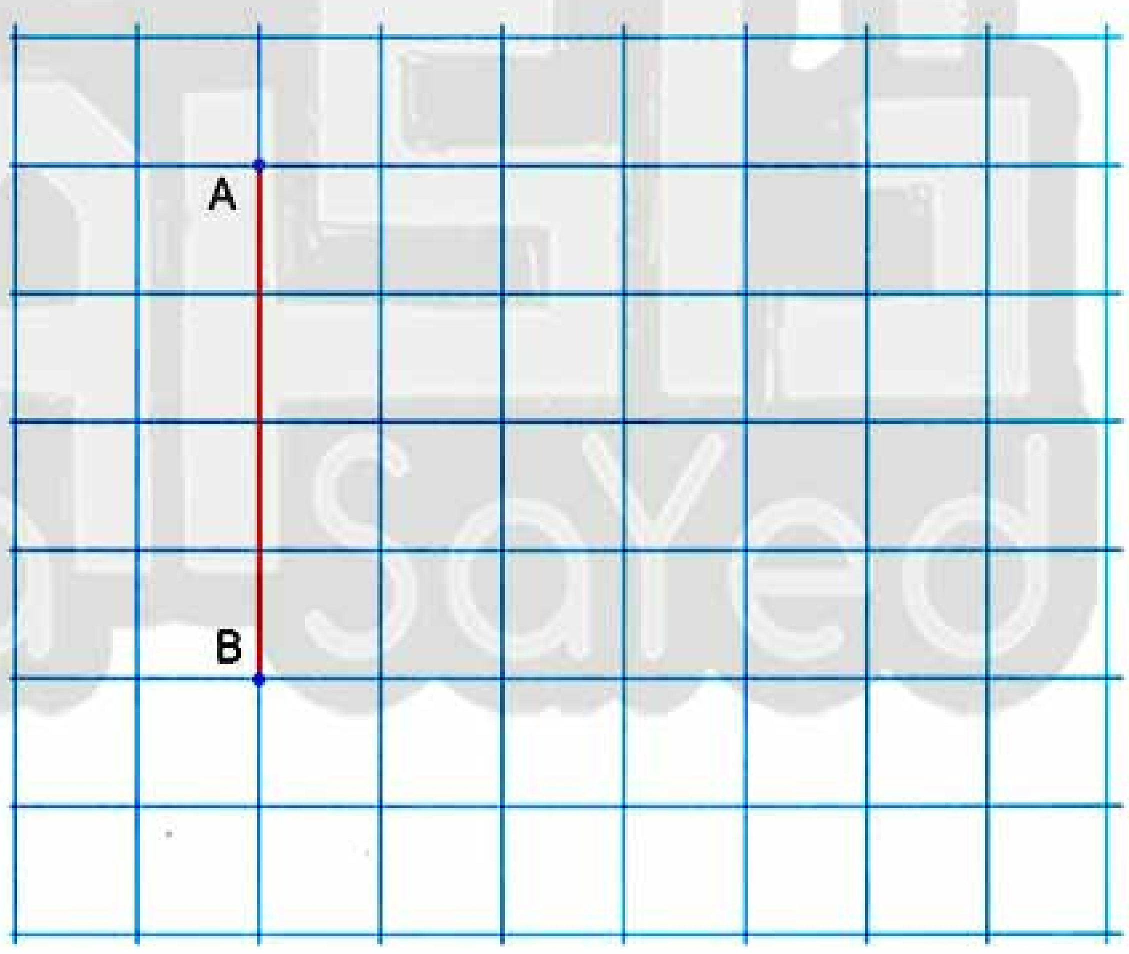
f



4 Colour the opposite figure such that each two opposite faces of the cube formed by folding it have the same colour :



5



a On the lattice , draw the square ABCD whose side length is 4 cm.

b Draw $\overline{AC}$ and $\overline{BD}$

c Into how many triangles was the square ABCD divided ?

d Are these triangles congruent ?

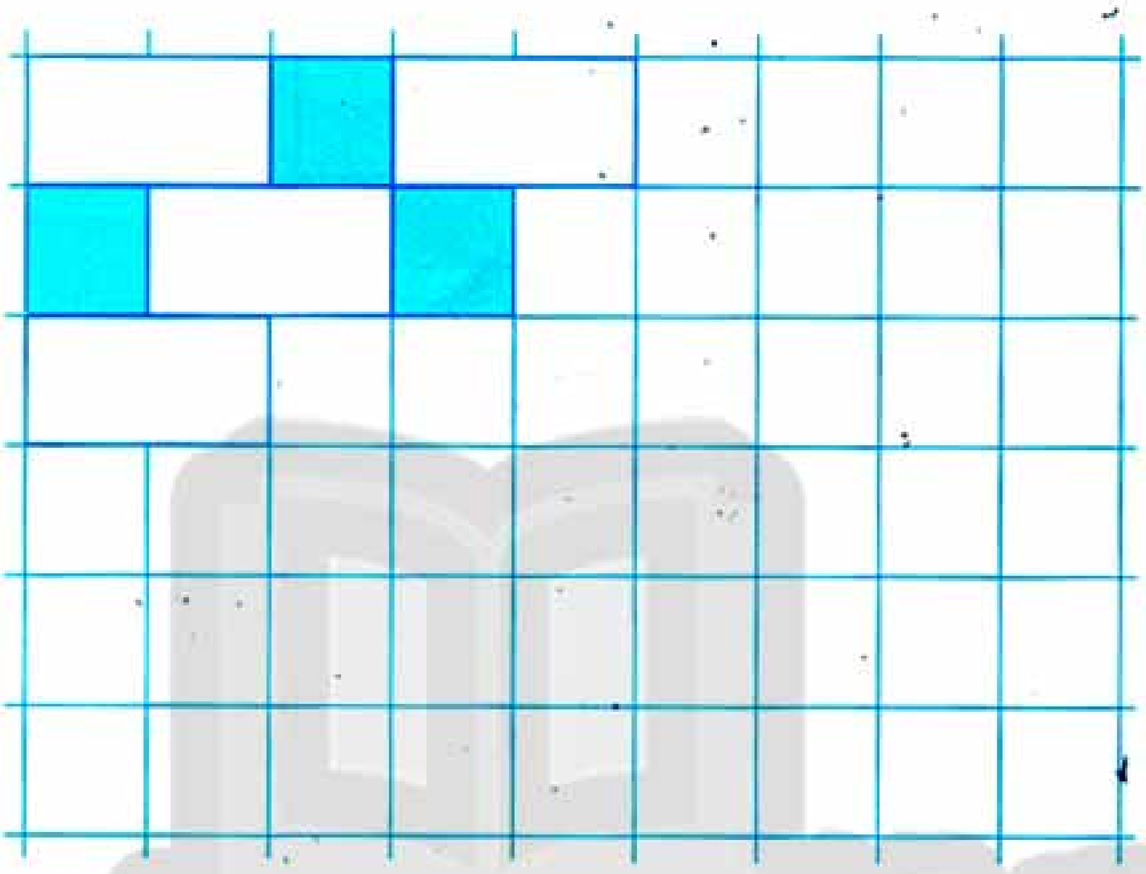
e Divide each of these triangles into two congruent triangles.

f Colour the resulted triangles in two different colours consecutively to get an ornamental nice figure.

g With the help of your teacher , use the “paint” program in your computer to do the final figure.

6 The following figure represents a rectangular-shaped hall with dimensions 6 m. and 9 m. , two types of tiles were used to tile the hall as shown in the figure.

Complete tiling in the same pattern , then answer the following questions :



a How many squared tiles are needed ?

b How many rectangular tiles are needed?

Think and answer

A square-shaped room of side length 4 metres. On a squared paper , design a pattern of your choice where you use 2 or 3 different kinds of tiles to cover its floor.

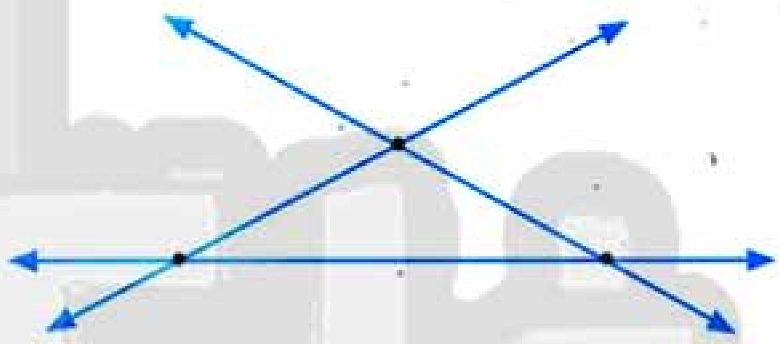


Activities from the school book

1 In the multimedia lab in your school and with the help of your teacher, use the computer to draw the following geometric figures :

a Rectangle
b Square
c Triangle
d Other ornamental figures

2 In the opposite figure, three straight lines intersect in three points :



a What is the greatest number of intersection points can you get using four straight lines ?

b What is the greatest number of intersection points can you get using six straight lines ?

c What is the greatest number of intersection points can you get using six straight lines , if four of them are parallel ?

d What is the greatest number of intersection points can you get using ten straight lines , if seven of them are parallel ?



GENERAL EXERCISE

From the school book

Unit Two "Geometry"

1 Choose the correct answer :

1 The measure of any angle of a square equals ....

a. 45° b. 90° c. 150°

2 The two perpendicular straight lines form 4 .... angles.

a. acute b. right c. obtuse

3 Number of sides of any polygon does not equal number of its ....

a. diagonals b. angles c. vertices

4 The diagonals of the square are ....

a. equal in length and not perpendicular

b. perpendicular but not equal in length

c. equal in length and perpendicular

2 Put the suitable relation "< , = or >" :

1 The measure of the straight angle .... the sum of the measures of the angles of a triangle

2 The measure of the right angle .... the measure of the obtuse angle

3 Draw Δ ABC right at B where BC = 4 cm. and AB = 3 cm.
Write the type of this triangle according to its side lengths.

4 Using the geometric instruments , draw Δ XYZ in which XY = 7 cm.
, YZ = 5 cm. and m (∠ XYZ) = 40°

5 Draw Δ ABC in which AB = 5 cm. , m(∠ B) = 90° and BC = 5 cm. , then complete :

1 AC = ………… cm.

2 The perimeter of Δ ABC = ………… cm.

3 The type of the Δ ABC according to its side lengths is …………

4 The type of the Δ ABC according to the measures of its angles is …………

3 UNIT

Multiples , factors and divisibility

Lessons of the unit :

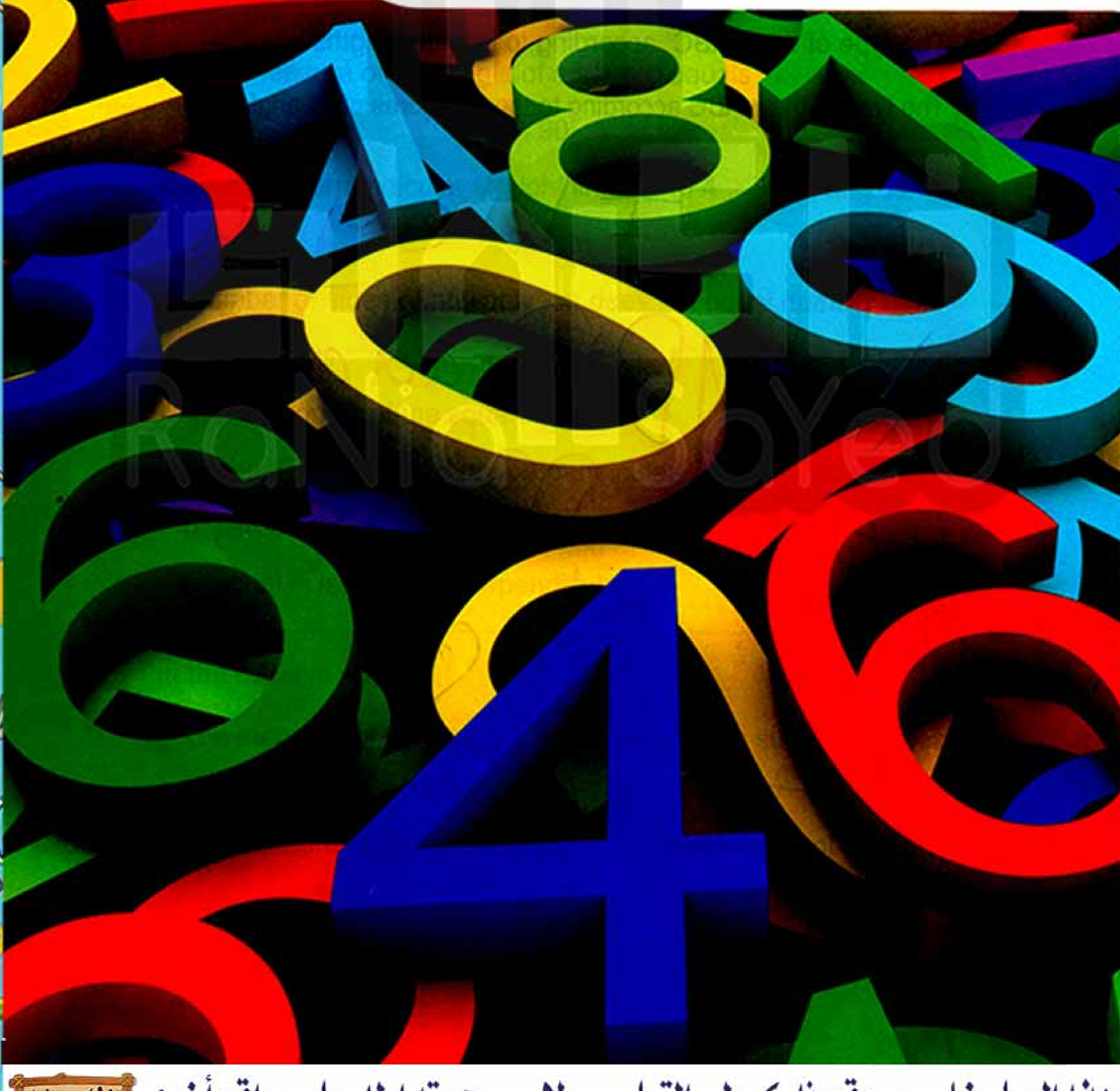
1. Multiples.
2. Divisibility.

3(A) . Factors.

3(B) . Prime numbers - Factorization.

4. Common factors and highest common factor (H.C.F.)
5. Common multiples and lowest common multiple (L.C.M.)

- Activities and general exercise from the school book.





LESSON 1 Multiples

- If we multiply each whole number (starting by 0) by the number 2, we get the following products :

$2 \times 0 = 0$, $2 \times 1 = 2$, $2 \times 2 = 4$, $2 \times 3 = 6$, $2 \times 4 = 8$,

$2 \times 5 = 10$, $2 \times 6 = 12$ and so on.

- These products " 0 , 2 , 4 , 6 , 8 , 10 , 12 , ..." are called multiples of 2

i.e. If a number is multiplied by 2 , then the product is a multiple of 2

Example

Since $2 \times 16 = 32$, then 32 is a multiple of 2
, 24 is a multiple of 2 because $24 = 12 \times 2$

- To find the multiples of 3 , we get the following products :

$3 \times 0 = 0$, $3 \times 1 = 3$, $3 \times 2 = 6$, $3 \times 3 = 9$, $3 \times 4 = 12$,

$3 \times 5 = 15$, $3 \times 6 = 18$, $3 \times 7 = 21$ and so on.

, then the multiples of 3 are : 0 , 3 , 6 , 9 , 12 , 15 , 18 , 21 , ...

Lesson 1

• To find the multiples of 4 , we get the following products :

$4 \times 0 = 0$, $4 \times 1 = 4$, $4 \times 2 = 8$, $4 \times 3 = 12$, $4 \times 4 = 16$, $4 \times 5 = 20$, $4 \times 6 = 24$, $4 \times 7 = 28$ and so on.

, then the multiples of 4 are : 0 , 4 , 8 , 12 , 16 , 20 , 24 , 28 , ...

• To find the multiples of 5 , we get the following products :

$5 \times 0 = 0$, $5 \times 1 = 5$, $5 \times 2 = 10$, $5 \times 3 = 15$, $5 \times 4 = 20$, $5 \times 5 = 25$, $5 \times 6 = 30$, $5 \times 7 = 35$ and so on.

, then the multiples of 5 are : 0 , 5 , 10 , 15 , 20 , 25 , 30 , 35 , ...

⇒ Similarly you can get the multiples of 6 , 7 , 8 , ...
and the following multiplication table can help you finding them.

	×	0	1	2	3	4	5	6	7	8	9	10	11	12
Multiples of 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multiples of 1	1	0	1	2	3	4	5	6	7	8	9	10	11	12
Multiples of 2	2	0	2	4	6	8	10	12	14	16	18	20	22	24
Multiples of 3	3	0	3	6	9	12	15	18	21	24	27	30	33	36
Multiples of 4	4	0	4	8	12	16	20	24	28	32	36	40	44	48
Multiples of 5	5	0	5	10	15	20	25	30	35	40	45	50	55	60
Multiples of 6	6	0	6	12	18	24	30	36	42	48	54	60	66	72
Multiples of 7	7	0	7	14	21	28	35	42	49	56	63	70	77	84
Multiples of 8	8	0	8	16	24	32	40	48	56	64	72	80	88	96
Multiples of 9	9	0	9	18	27	36	45	54	63	72	81	90	99	108
Multiples of 10	10	0	10	20	30	40	50	60	70	80	90	100	110	120
Multiples of 11	11	0	11	22	33	44	55	66	77	88	99	110	121	132
Multiples of 12	12	0	12	24	36	48	60	72	84	96	108	120	132	144

Remarks

1. The multiples of 2 are the numbers whose units digit is 0 , 2 , 4 , 6 or 8
2. The multiples of 2 are called even numbers and all other whole numbers are called odd numbers.
3. The multiples of 5 are the numbers whose units digit is 0 or 5
4. The multiples of 10 are the numbers whose units digit is 0
5. Zero is a multiple of any number.
6. Any number is a multiple of itself.
7. • All numbers that are multiples of both 2 and 3 are multiples of 6
   • All numbers that are multiples of both 2 and 5 are multiples of 10
   • All numbers that are multiples of both 2 and 7 are multiples of 14

EXERCISE 11

Multiples

From the school book

1 Complete :

a The multiples of 3 are : .... , ... , ... , ... , ... and so on.

b The multiples of 5 are : .... , ... , ... , ... , ... and so on.

c The multiples of 6 are : .... , ... , ... , ... , ... and so on.

d The multiples of 10 are : .... , ... , ... , ... , ... and so on.

e The multiples of 12 are : .... , ... , ... , ... , ... and so on.

2 Underline each number of the following that is :

a a multiple of the number 2 — 17 , 5 , 26 , 4 , 13 , 2 , 20

b a multiple of the number 3 — 4 , 15 , 21 , 3 , 10 , 12 , 22

c a multiple of the number 5 — 23 , 15 , 40 , 51 , 5 , 8 , 20

d a multiple of 8 — 12 , 16 , 20 , 32 , 36 , 46 , 48

e a multiple of 11 — 11 , 23 , 33 , 41 , 51 , 77 , 91

f a multiple of 20 — 0 , 10 , 20 , 35 , 40 , 50 , 70

3 Circle the correct answer :

a Which number is a multiple of 6 ? (8 or 28 or 38 or 48)

b Which number is a multiple of 7 ? (49 or 45 or 22 or 27)

c Which number is a multiple of 2 ? (21 or 231 or 205 or 30)

d Which number is a multiple of 15 ? (25 or 0 or 50 or 65)

e Which number is a multiple of 9 ? (4 or 6 or 16 or 36)

f Which number is a multiple of all numbers ? (0 or 2 or 10 or 100)

4 Complete as in the example :

Example

- The number 14 is a multiple of 2 because : 14 = 2 × 7
- The number 45 is a multiple of 5 because : 45 = 5 × 9

a The number 12 is a multiple of 3 because : .... = ... × ....

b The number 21 is a multiple of 7 because : .... = ... × ....

c The number 56 is a multiple of 8 because : .... = ... × ....

d The number .... is a multiple of 5 because : 40 = 5 × ....

e The number .... is a multiple of 6 because : .... = 6 × 7

f The number .... is a multiple of 10 because : 150 = ... × 15

5 Write as in the example :

Example

- All the multiples of 4 between 10 and 25 — 12 , 16 , 20 and 24
- All the multiples of 4 that are less than 21 — 0 , 4 , 8 , 12 , 16 and 20

a All the multiples of 2 between 17 and 29

....

b All the multiples of 3 between 10 and 20

....

c All the multiples of 5 between 14 and 44

....

d All the multiples of 9 between 17 and 61

....

e All the multiples of 2 that are less than 10

....

f All the multiples of 3 that are less than 20

....

g All the multiples of 4 that are less than 32

....

h All the multiples of 8 that are less than 45

....

---

6 Complete with multiples of 10 as in the example :

Example

$50 < 57 < 60$

a $\ldots\ldots < 24 < \ldots\ldots$ **b** $\ldots\ldots < 11 < \ldots\ldots$

c $\ldots\ldots < 43 < \ldots\ldots$ **d** $\ldots\ldots < 76 < \ldots\ldots$

e $\ldots\ldots < 69 < \ldots\ldots$ **f** $\ldots\ldots < 95 < \ldots\ldots$

---

7 Complete with multiples of 5 as in the example :

Example

$30 < 33 < 35$

a $\ldots\ldots < 11 < \ldots\ldots$ **b** $\ldots\ldots < 26 < \ldots\ldots$

c $\ldots\ldots < 42 < \ldots\ldots$ **d** $\ldots\ldots < 62 < \ldots\ldots$

e $\ldots\ldots < 74 < \ldots\ldots$ **f** $\ldots\ldots < 83 < \ldots\ldots$

---

8 Complete as in the example :

Example

$18 = 2 \times 9$ hence 18 is a multiple of 2
and is also considered a multiple of 9

a $28 = 7 \times \ldots\ldots$ hence 28 is a multiple of ....
and is also considered a multiple of ....

b 42 = 6 × ………… hence 42 is a multiple of …………
and is also considered a multiple of …………

c 45 = 5 × ………… hence 45 is a multiple of …………
and is also considered a multiple of …………

d 60 = 10 × ………… hence 60 is a multiple of …………
and is also considered a multiple of …………

e 88 = 11 × ………… hence 88 is a multiple of …………
and is also considered a multiple of …………

9 **Join each number to its multiples :**

(2) (3) (5)

7 8 11 12 15 21 30

10 **Write the multiples of :**

a The two numbers 3 and 5 that are less than 50

……………………………………………………………………………………

b The two numbers 2 and 3 that are less than 30

……………………………………………………………………………………

c The two numbers 2 and 5 that are between 20 and 75

……………………………………………………………………………………

d The three numbers 2 , 3 and 5 that are less than 100

……………………………………………………………………………………

Lesson 1

11 The table below contains numbers from 0 to 49 :

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49

a Put a yellow dot in the cells having a multiple of 2

Put a red dot in the cells having a multiple of 3

Put a blue dot in the cells having a multiple of 5

b **Complete :** The numbers in the cells having yellow and red dots are

....

, each of these numbers is a multiple of .... and .... at the same time , and is also considered a multiple of ....

c **Complete :** The numbers in the cells having yellow dots only are

....

, each of these numbers is a multiple of .... and it is not a multiple of .... or ....

d **Complete :** The numbers in the cells having yellow and blue dots are

....

each of these numbers is a multiple of .... and .... at the same time and is also considered a multiple of ....

e **Complete :** The numbers in the cells having blue dots only are

....

each of these numbers is a multiple of .... and is not a multiple of .... or ....

12 Write a number greater than 20 that is a multiple of the two numbers 2 and 4 and also a multiple of their product 8

....

13 Write a number greater than 20 that is a multiple of the two numbers 2 and 4 and not a multiple of their product 8

....

14 If the number of pupils in a class is a multiple of the two numbers 2 and 3 that is included between 30 and 40
How many pupils are there in the class?



....

Think and answer

1 If the number of books in a library is a multiple of both 3 and 5 that is included between 100 and 119
How many books are there in that library?



....

2 An alarm clock rings regularly every two hours , while another one rings every 3 hours. If the two alarms ring together at 12 o'clock , at what time will they ring together after that ?



....



LESSON 2 Divisibility

(1) The meaning of divisibility

We know that : 10 ÷ 3 = 3 and the remainder = 1

So, we say that : 10 is not divisible by 3

We know that : 10 ÷ 5 = 2 and the remainder = 0

So, we say that : 10 is divisible by 5

Generally

Any number is divisible by another if the remainder of the division is zero.

Example

Division	Quotient	Remainder	Divisibility
14 ÷ 2	7	0	14 is divisible by 2
17 ÷ 3	5	2	17 is not divisible by 3
25 ÷ 5	5	0	25 is divisible by 5
37 ÷ 6	6	1	37 is not divisible by 6

(2) Multiples and divisibility

We know that :

15 is a multiple of both of 3 and 5 because :

$3 \times 5 = 15$

$15 \div 3 = 5$ and the remainder = 0 Therefore : 15 is divisible by 3	$15 \div 5 = 3$ and the remainder = 0 Therefore : 15 is divisible by 5

So , 15 (a multiple of the number 3) is divisible by 3

and also 15 (a multiple of the number 5) is divisible by 5

Generally

All the multiples of a number are divisible by this number.

Example

- $2 \times 6 = 12$, therefore 12 is a multiple of each of the two numbers 2 and 6
  So , 12 is divisible by each of the two numbers 2 and 6
- 9 is not a multiple of 2
  So , 9 not divisible by 2 [Note : $9 \div 2 = 4$ and the remainder = 1]

Remarks

A whole number is divisible by	If
2	• its units digit is 0 , 2 , 4 , 6 or 8 (the whole number is even.)
3	• the sum of its digits is divisible by 3
5	• its units digit is 0 or 5
10	• its units digit is 0

Lesson 2

Example

[1] 1 126 is divisible by 2 because 1 126 is an even number.

[2] 8 107 is not divisible by 2 because 8 107 is an odd number.

[3] 6 105 is divisible by 3

because the sum of its digits = 6 + 1 + 0 + 5 = 12 and 12 is divisible by 3

[4] 11 732 is not divisible by 3

because the sum of its digits = 1 + 1 + 7 + 3 + 2 = 14

and 14 is not divisible by 3

[5] 12 575 is divisible by 5 because its units digit is 5

[6] 15 390 is divisible by 10 because its units digit is 0

Remarks

1. Each whole number is divisible by 1
2. Each whole number except zero is divisible by itself.
3. Zero is divisible by any whole number except itself.

EXERCISE 12

Divisibility

From the school book

1 Complete the following table as in the example :

	Division	Quotient	Remainder	Divisibility
Ex	15 ÷ 6	2	3	15 is not divisible by 6
a	48 ÷ 8			
b	46 ÷ 5			
c	38 ÷ 5			
d	42 ÷ 7			
e	270 ÷ 270			
f	612 ÷ 6			

2 Complete as in the example :

Example

21 is not divisible by 5 because 21 ÷ 5 = 4 and the remainder = 1 , hence 21 is not a multiple of 5

a 28 is not divisible by 8

because .... ÷ 8 = ... and the remainder = ... , hence 28 is .... of 8

b 53 is .... by 7

because .... ÷ 7 = ...and the remainder = ... , hence 53 is .... of 7

c 72 is .... by 9

because .... ÷ .... = ... and the remainder = ... , hence 72 is .... of 9

d 0 is .... by 7

because .... ÷ .... = ... and the remainder = ... , hence 0 is .... of 7

3 Complete as in the example :

Example

$5 \times 9 = 45$, then 45 is a multiple of each of 5 and 9
and also is divisible by each of 5 and 9

a. $7 \times 9 =$ .... , then .... is a multiple of each of .... and ....
and also is divisible by each of .... and ....

b. $8 \times 6 =$ .... , then .... is a multiple of each of .... and ....
and also is divisible by each of .... and ....

c. $5 \times 11 =$ .... , then .... is a multiple of each of .... and ....
and also is divisible by each of .... and ....

d. $9 \times 10 =$ .... , then .... is a multiple of each of .... and ....
and also is divisible by each of .... and ....

e. $4 \times$ .... $= 404$, then .... is a multiple of each of .... and ....
and also is divisible by each of .... and ....

f. $5 \times$ .... $= 150$, then .... is a multiple of each of .... and ....
and also is divisible by each of .... and ....

4 Complete with "divisible" or "not divisible" :

a. 12 is .... by 5
b. 48 is .... by 6
c. 72 is .... by 9
d. 93 is .... by 3
e. 707 is .... by 7
f. 120 is .... by 10

5 Put (✓) for the correct statement and (×) for the incorrect one :

a. All even numbers are divisible by 2 ( )
b. All odd numbers are divisible by 3 ( )
c. 42 is divisible by 6 but not divisible by 7 ( )
d. 88 is divisible by both 8 and 11 ( )
e. 636 is divisible by both 2 and 3 ( )
f. The number 3 205 is divisible by both 2 and 5 ( )

6 Choose the correct answer between brackets :

a The number is said to be divisible by 3 if the sum of its digits is divisible by .... (2 or 3 or 5 or 7)

b 42 is divisible by .... (2 or 5 or 4 or 8)

c 32 is not divisible by .... (4 or 8 or 6 or 2)

d 75 is divisible by .... (2 or 4 or 5 or 6)

e 1 401 is divisible by .... (2 or 3 or 5 or 10)

f 590 is not divisible by .... (2 or 3 or 5 or 10)

g 430 is divisible by .... (3 only or 5 only or 2 only or both 2 and 5)

h 60 is divisible by ....

(3 only or 2 and 3 only or 2 and 5 only or 2 , 3 and 5)

i The number .... is divisible by both 3 and 5

(1 115 or 4 125 or 3 333 or 6 665)

j The number .... is divisible by 2 , 3 and 5

(200 or 190 or 750 or 636)

k (511 + ...) is divisible by 5 (1 or 3 or 6 or 9)

7 In each of the following , circle the numbers which are :

a divisible by 2 (15 , 18 , 102 , 5 224 , 6 143)

b divisible by 3 (33 , 1 256 , 73 410 , 1 278)

c divisible by 5 (125 , 3 123 , 1 460 , 2 327 , 4 265)

d divisible by 2 , 3 and 5 (639 , 165 , 600 , 582 , 330 , 735)

e not divisible by 2 (30 , 241 , 3 528 , 10 253)

f not divisible by 3 (23 , 36 , 108 , 127 , 20 130)

g not divisible by 5 (50 , 535 , 4 239 , 5 501)

Lesson 2

8 Write three numbers which are divisible by :

a both 2 and 3 (.................. , ... , ...)

b both 2 and 5 (.................. , ... , ...)

c both 3 and 5 (.................. , ... , ...)

d 2 , 3 and 5 (.................. , ... , ...)

---

9 Complete the following :

a The number is divisible by 2 if its units digit is ....

b The number is divisible by 5 if its units digit is ....

c Each number except zero is divisible by ....

d Each number is divisible by ....

e The two numbers 18 and 21 are divisible by ....

f The smallest number which can be added to 677 to make the result divisible by 3 is ....

g The smallest number which can be added to 7 154 to make the result divisible by both 2 and 5 is ....

h The smallest number which can be subtracted from 648 to make the result divisible by 5 is ....

i If an even number is divisible by 5 , then its units digit = ...

j The greatest number formed from three different digits and is divisible by 5 is ....

k The greatest 4-digit number which is divisible by 3 and not divisible by 2 is ....

10 Write :

a The numbers which are between 32 and 48 and divisible by 2

....

b The numbers which are between 68 and 108 and divisible by 5

....

c The numbers which are between 406 and 451 and divisible by 2 and 5

....

d The numbers which are between 26 and 72 and divisible by both 3 and 5

....

e The numbers which are between 80 and 155 and divisible by 2 , 3 and 5

....

f The numbers which are formed from 4 equal digits and divisible by 3

....

g The numbers which are formed from 4 equal digits and divisible by 5

....

11 Write :

a The smallest and the greatest 3-digit numbers which are divisible by 3

[ ] , [ ]

b The smallest and the greatest 4-digit numbers which are divisible by 5

[ ] , [ ]

c The smallest and the greatest 5-digit numbers which are divisible by both 3 and 5 [ ] , [ ]

d The smallest and the greatest 5-digit numbers which are not divisible by 2

[ ] , [ ]

Lesson 2

e The smallest and the greatest 4-digit numbers which are divisible by 2 , 3 and 5 [   ] , [   ]

f The smallest and the greatest 5-different digit numbers which are divisible by both 3 and 5

[   ] , [   ]

12 Find the missing digits :

a 43 [ ] is divisible by 2

b 1 [ ] 6 is divisible by 3

c 63 [ ] is divisible by both 2 and 3

d 54 [ ] is divisible by 2 , 3 and 5

e 97 [ ] 0 is divisible by both 3 and 5

f 64 37 [ ] is an odd number and divisible by 5

13 Using the digits 7 , 5 , 0 and 6 to write three 4-digit numbers divisible by 5

....

Think and answer

I am a 2-digit number divisible by 7 and if you subtract 1 from me I became divisible by 2 , 3 , 4 , 6 and 8 Who am I ?

....



LESSON 3 (A) Factors

Any number can be written as a product of two (or more) numbers.

For example

$$8 = 1 \times 8 \qquad 8 = 2 \times 4$$

In this case , the numbers : 1 , 8 , 2 and 4 are called the factors of the number 8

Example

List all the factors of 12

Solution

12

1×12

2×6

3×4

Notice that :

- 12 is a multiple of 1 , 12 , 2 , 6 , 3 and 4
  i.e. The number is a multiple of each of its factors.
- 12 is divisible by 1 , 12 , 2 , 6 , 3 and 4
  i.e. The number is divisible by each of its factors.

So, the numbers 1 , 12 , 2 , 6 , 3 and 4 are the factors of 12

Lesson 3(A)

Remarks

1. The factors of a number are all the numbers which divide this number.
2. The number 1 is a factor of all numbers.
3. Each number is a factor of itself except zero.
4. All numbers except zero are factors of zero.
5. 2 is a factor of all even numbers.
6. 3 is a factor of any number the sum of its digits divisible by 3
7. 5 is a factor of any number its units digit is 0 or 5
8. Zero is not a factor of any number.

« you can use the rules of divisibility to determine that if the number is a factor of the other or not »

9. 6 is a multiple of 2 and 3 ← $6 = 2 \times 3$
   6 is divisible by 2 and 3

   → 2 is a factor of 6
   → 3 is a factor of 6

EXERCISE 13

Factors

From the school book

1 Complete as in the example :

Example

15
1 × 15
3 × 5

The factors of the number 15 are 1 , 3 , 5 and 15

a

14
1 × ...
2 × ...

The factors of the number 14 are : ....

b

16
1 × ...
2 × ...
... × ...

The factors of the number 16 are : ....

c

36
1 × ...
2 × ...
... × ...
... × ...
... × ...

The factors of the number 36 are : ....

d

56
... × ...
... × ...
... × ...
... × ...

The factors of the number 56 are : ....

2 **Complete as in the example :**

Example

18 = 1 × 18 = 2 × 9 = 3 × 6

The factors of the number 18 are : 1 , 2 , 3 , 6 , 9 and 18

a 9 = 1 × .... = 3 × ....

The factors of the number 9 are : ....

b 📖 24 = 1 × .... = 2 × .... = 3 × .... = 4 × ....

The factors of the number 24 are : ....

c 📖 42 = 1 × .... = 2 × .... = 3 × .... = 6 × ....

The factors of the number 42 are : ....

d 88 = 1 × .... = 2 × .... = 4 × .... = 8 × ....

The factors of the number 88 are : ....

e 100 = 1 × .... = 2 × .... = 4 × .... = 5 × .... = 10 × ....

The factors of the number 100 are : ....

f 120 = 1 × .... = 2 × .... = 3 × .... = 4 × .... = 5 × .... = 6 × ....

= 8 × .... = 10 × ....

The factors of the number 120 are : ....

3 **Complete :**

a 📖 3 is one of the factors of the numbers .... , ... , ...

b 5 is one of the factors of the numbers .... , ... , ...

c 6 is one of the factors of the numbers .... , ... , ...

d 1 is one of the factors of the numbers .... , ... , ...

4 Complete with "is a factor of" or "is not a factor of" as in [a] :

a 3 is not a factor of 17
b 4 32
c 11 22
d 1 .... 6 207
e 914 914
f 2 67
g 3 153
h 5 875
i 0 530
j 13 156

5 Match from the set (A) to the suitable answer in the set (B) :

	A
a	66
b	56
c	25
d	5 and 3
e	1

	B
1	its factors are : 1 , 5 and 25
2	is a factor of all numbers.
3	two of its factors are : 4 and 7
4	are two factors of 75
5	two of its factors are : 3 and 11

6 Put (✓) for the correct statement and (×) for the incorrect one :

a 3 and 7 are factors of the number 63 ( )
b The factors of the number 18 are 2 , 3 , 6 , 9 and 18 only. ( )
c The factors of the number 14 are 1 , 2 and 7 only. ( )
d The factors of the number 20 are 1 , 2 , 4 , 5 , 10 and 20 only. ( )
e The number 7 has two factors only. ( )
f The number 40 has two factors only. ( )

Lesson 3(A)

7 Write the factors of each of the following numbers :

a 4 : ....

b 7 : ....

c 11 : ....

d 📖 14 : ....

e 28 : ....

f 36 : ....

g 📖 26 : ....

h 📖 38 : ....

i 48 : ....

j 54 : ....

k 64 : ....

l 📖 75 : ....

8 Complete the following table as in the solved column :

The number	3	12	16	....	....
Its factors	1 and 3	....	....	1 , 2 , 4 , 7 , 14 and 28	1 , 2 , 3 , 5 , 6 , 10 , 15 and 30
The number of its factors	2	....	....	....	....

9 Choose the correct answer between brackets :

a 5 is a factor of .... (54 or 50 or 53)

b 3 is a factor of .... (53 or 163 or 354)

c 2 is a factor of .... (21 or 201 or 210)

d 2 and 5 are the factors of .... (601 or 610 or 106)

e 2 and 3 are the factors of .... (736 or 831 or 936)

f The number 11 has .... factors. (2 or 3 or 4)

g The number 36 has .... factors. (7 or 9 or 8)

h .... is a factor of all numbers. (0 or 1 or 2)

i .... is a factor of 9 (0 or 3 or 18)

j .... is a factor of 20 (5 or 8 or 40)

Think and answer

Write :

a The two 1-digit numbers which have 3 factors.

....

b The numbers which have one factor.

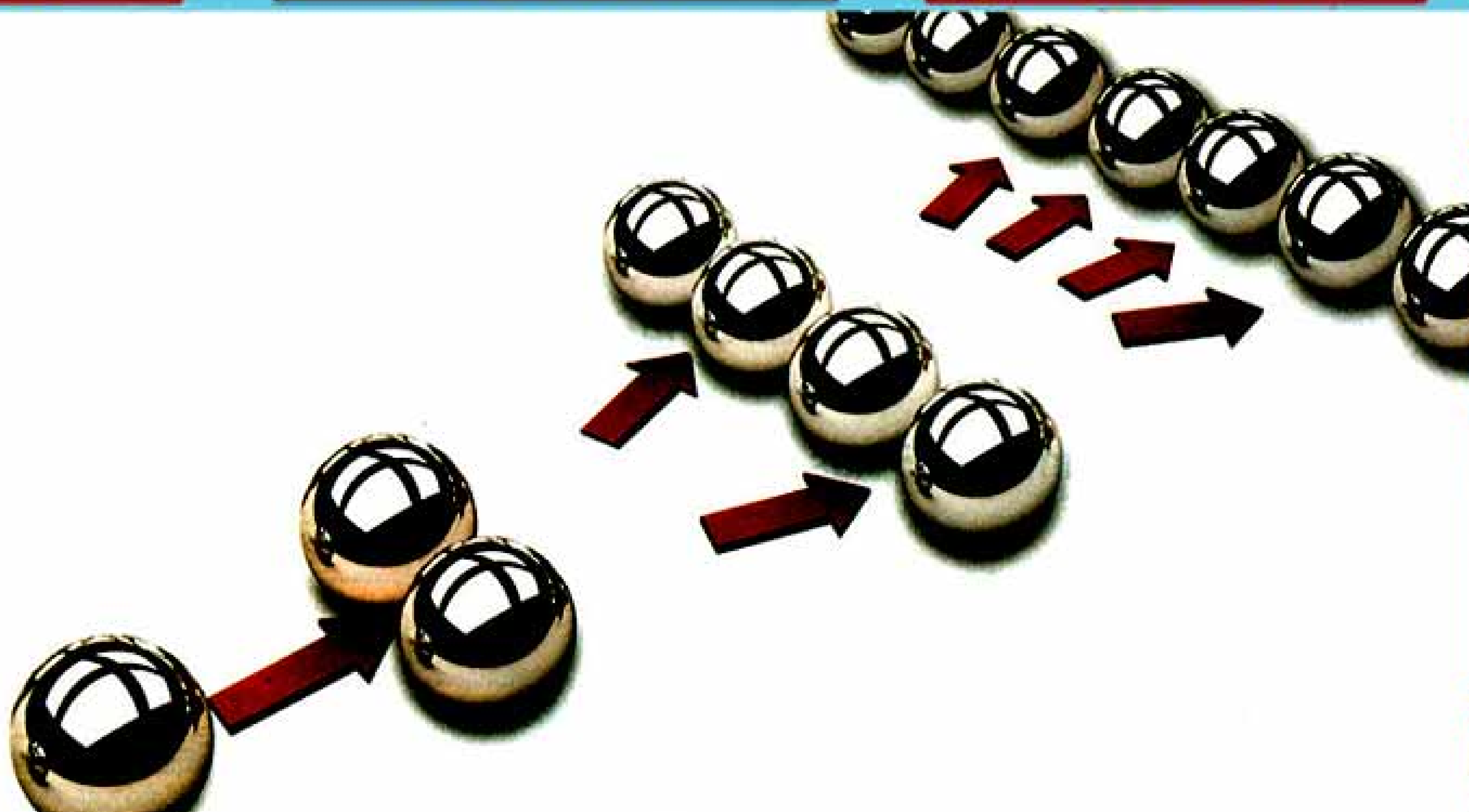
....

c The smallest number which has 3 factors.

....

d The smallest 2-digit number which has 2 factors.

....



LESSON 3 (B) Prime numbers – Factorization

Prime numbers

The prime number is a whole number that has only 2 different factors which are 1 and the number itself.

Examples

[1] The factors of 3 are : 1 and 3

[i.e. 3 has exactly two factors], therefore 3 is a prime number.

[2] The factors of 9 are : 1 , 3 and 9

[i.e. 9 has more than two factors], therefore 9 is not a prime number.

[3] The factors of 7 are : 1 and 7

[i.e. 7 has exactly two factors], therefore 7 is a prime number.

[4] The factors of 12 are : 1 , 2 , 3 , 4 , 6 and 12

[i.e. 12 has more than two factors], therefore 12 is not a prime number.

[5] 1 has only one factor , therefore 1 is not a prime number.

[6] All numbers greater than zero are factors of it, therefore 0 is not a prime number.

Remarks

1. The prime number is divisible only by 1 and itself.
2. A composite number is a whole number greater than 1 that has more than two factors.
3. 2 is the smallest prime number.
4. 2 is the only even prime number.
5. All prime numbers are odd except 2
6. If a number is divisible by 2 or more prime numbers, then it will be divisible by their product

   i.e. if a number is divisible by 2 , 3 and 5 , then it will be divisible by 30 "because 2 × 3 × 5 = 30"

• **The following table shows the prime numbers which lie between 1 and 100 :**

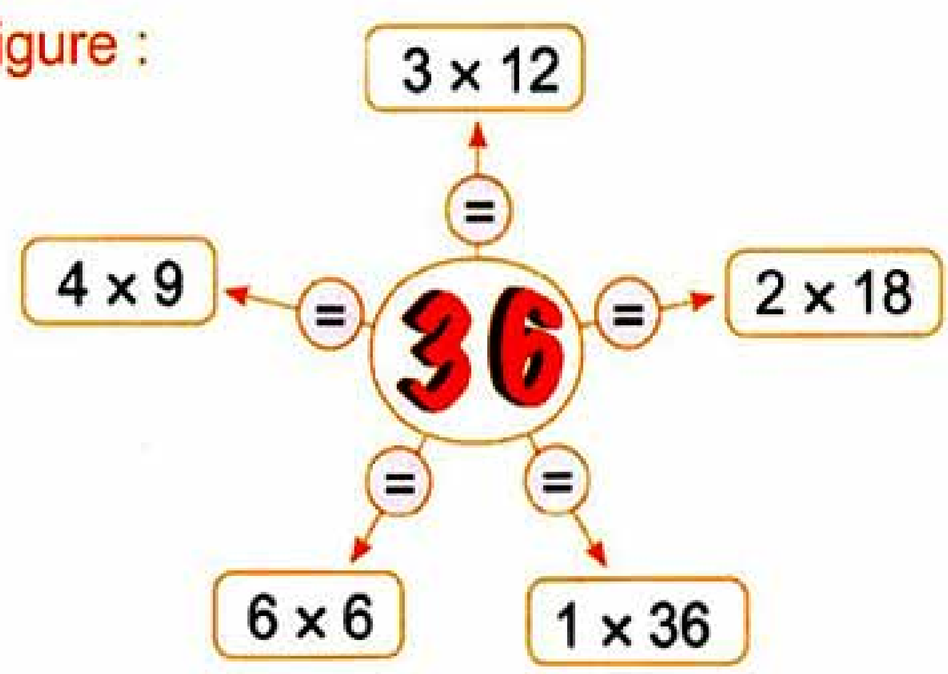
2	3	5	7	11	13	17	19	23
29	31	37	41	43	47	53	59	61
	67	71	73	79	83	89	97	

Factorization

Factorizing a number means writing this number in the form of a product of two or more factors.

• To factorize the number 36 , we can do as shown in the opposite figure :

Each of these answers is called "factorization" of the number 36 but these factorizations not to its prime factors , if we want to factorize the number 36 to its prime factors, we use the following.



Lesson 3(B)

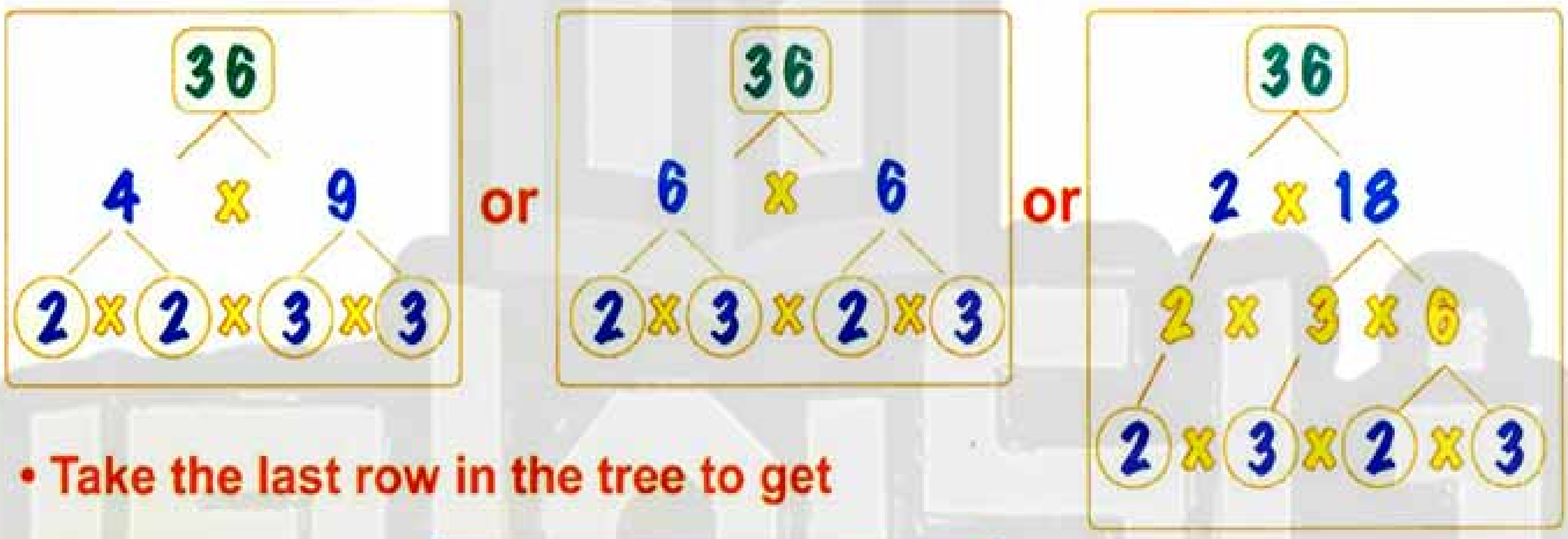
Factorizing the composite number to its prime factors

Factorizing a number to its prime factors means writing this number in the form of a product of prime factors only.

- **To factorize the number 36 to its prime factors , we will display two methods :**

The first method : Using factors tree

- Choose any two factors of 36 , continue finding factors until getting only prime factors.

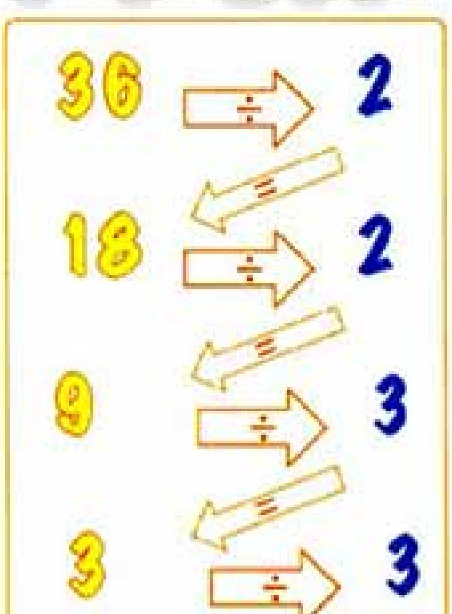


- **Take the last row in the tree to get**

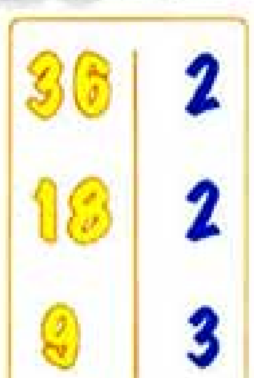
$$36 = 2 \times 2 \times 3 \times 3$$

The second method : Using division

Repeatedly divide by the possible prime factors until the quotient is 1



and it is written as :



It is preferable to start by the smallest possible prime numbers.
2, 3, 5, 7, 11, 13, 17, ... etc.

Then, the factorization of 36 to its prime factors = 2 × 2 × 3 × 3

EXERCISE 14

Prime numbers – Factorization

From the school book

1 Complete with "prime number" or "non-prime number" :

a 2 is ....
b 4 is ....
c 1 is ....
d 5 is ....
e 6 is ....
f 7 is ....
g 9 is ....
h 11 is ....
i 12 is ....
j 13 is ....
k 16 is ....
l 23 is ....

2 Write the factors of each number, then determine if it is prime or non-prime number as in the example :

Example

- The factors of 11 are : 1 and 11, then 11 is a prime number.
- The factors of 8 are : 1 , 2 , 4 and 8 , then 8 is a non-prime number.

a The factors of 7 are : .... , then 7 is a .... number.

b The factors of 16 are : .... , then 16 is a .... number.

c The factors of 31 are : .... , then 31 is a .... number.

d The factors of 27 are : .... , then 27 is a .... number.

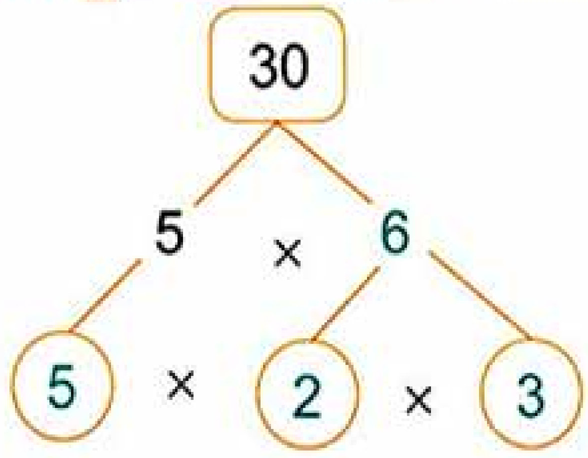
e The factors of 39 are : .... , then 39 is a .... number.

f The factors of 47 are : .... , then 47 is a .... number.

Lesson 3(B)

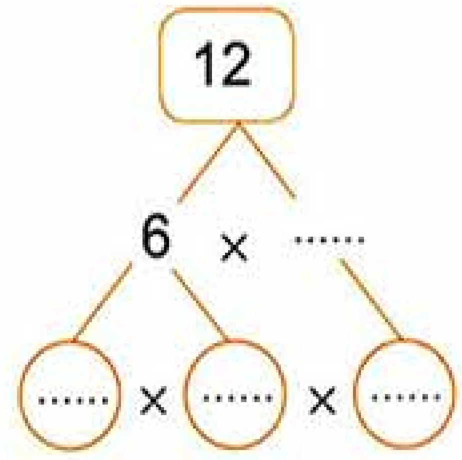
3 Factorize as in the example :

Example



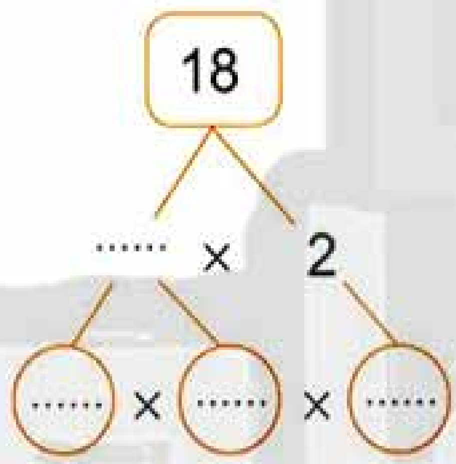
The prime factors of 30 are 2 , 3 and 5

a



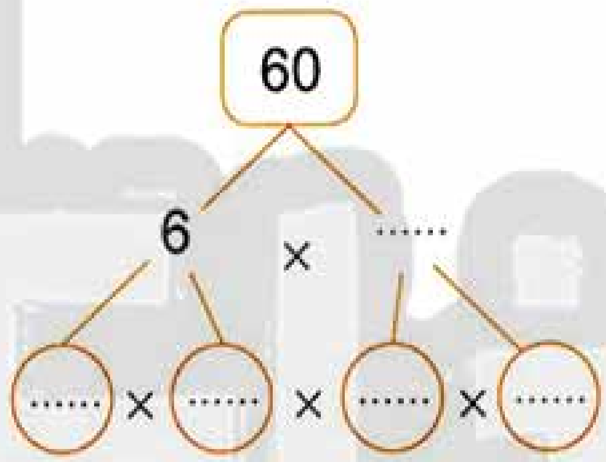
The prime factors of 12 are .... , ... and ....

b



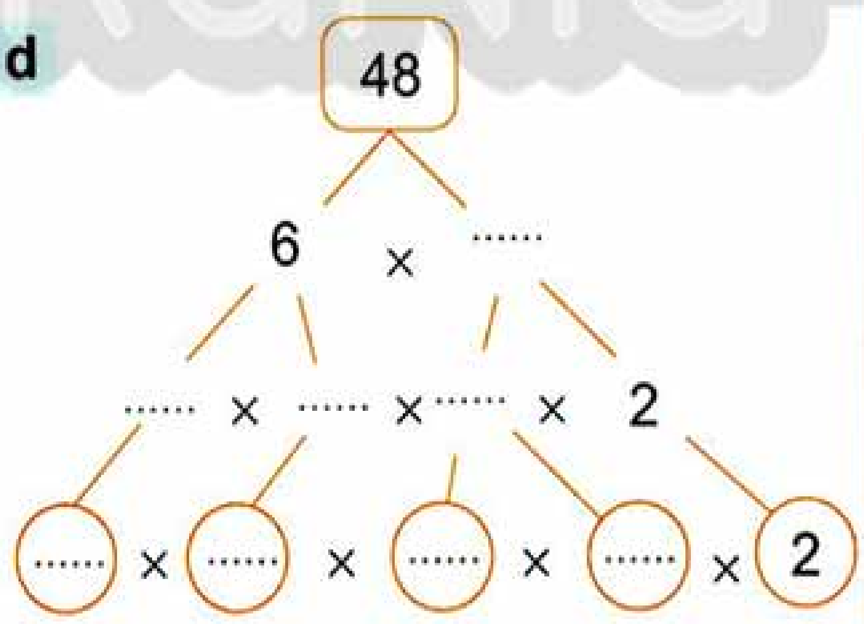
The prime factors of 18 are .... , ... and ....

c



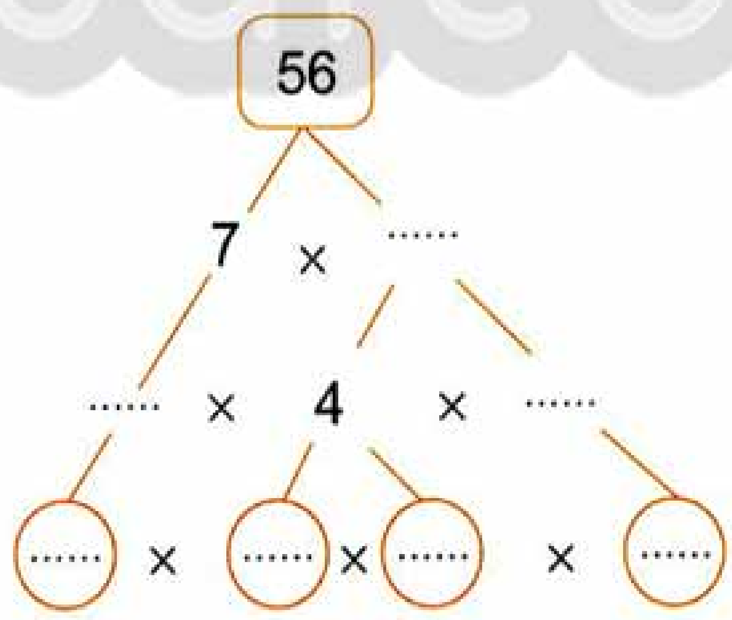
The prime factors of 60 are .... , ... , ... and ....

d



The prime factors of 48 are .... , ... , ... , ... and ....

e



The prime factors of 56 are .... , ... , ... and ....

4 **Factorize as in the example :**

Example

78	2
39	3
13	13
1	

78 = 2 × 3 × 13

a

24	......
......	......
......	......
......	......
1	

24 = ... × .... × .... × ....

b

16	......
......	......
......	......
......	......
1	

16 = ... × .... × .... × ....

c

10	......
......	......
1	

10 = ... × ....

d 42

42 = ...

e 26

26 = ...

f 81

81 = ...

g 120

120 = ...

h 96

96 = ...

i 84

84 = ...

j 72

72 = ...

k 51

51 = ...

5 **Put (✓) for the correct statement and (×) for the incorrect one :**

a The smallest prime number is 1 ( )

b All prime numbers are odd numbers. ( )

c It's possible to get the prime number divisible by 7 and 11 ( )

d The number 21 is a prime number. ( )

Lesson 3(B)

e The numbers 1 , 3 , 5 and 11 are all prime numbers. ( )

f A prime number is a whole number that has more than two factors. ( )

g The number 101 is a prime number. ( )

h The numbers 2 , 3 and 7 are the prime factors of 42 ( )

i The prime factors of 48 are 4 and 3 ( )

j The prime factors of 20 are 4 and 5 ( )

k The prime factors of 22 are 2 and 2 ( )

6 Choose the correct answer between brackets :

a .... is a prime number. (16 or 19 or 21)

b The smallest prime number is .... (0 or 1 or 2)

c The smallest odd prime number is .... (1 or 2 or 3)

d The prime number between 44 and 50 is .... (45 or 47 or 49)

e .... isn't a prime number. (1 or 3 or 5)

f .... is a prime number. (97 or 201 or 111)

g .... is a non-prime number. (89 or 67 or 213)

h 3 , 2 and 7 are prime factors of .... (21 or 42 or 44)

i 2 , 5 and 7 are prime factors of .... (25 or 35 or 70)

j 2 , 5 and 13 are prime factors of .... (130 or 13 or 65)

k The number 108 is divisible by the two prime numbers 3 and ....
(9 or 7 or 2)

7 Complete :

a .... is the only even prime number.

b 📖 The prime number has two factors are .... and ....

c 📖 1 is not a prime number because ....

d A 2-digit prime number less than 13 is ....

e The prime numbers between 60 and 70 are ....

f The number 37 has .... factors and it is a .... number.

g The number 15 is a .... number because it has .... factors.

h The prime factors of 14 are .... and ....

i The prime factors of 19 are ....

j The prime factors of the number 60 without repetition are .... , ... and ....

k The smallest number whose prime factors are 2 , 3 , 5 and 11 is ....

l The greatest factor of the number 72 is ....

m The greatest prime factor of the number 28 is ....

n The smallest factor of the number 21 is ....

o The smallest prime factor of the number 42 is ....

p The number of prime factors of 105 is ....

q The prime number whose sum of its factors is 6 = ...

Lesson 3(B)

8 Underline the prime numbers :

a 2 , 7 , 25 , 29 , 34 and 57

b 58 , 87 , 91 , 102 , 107 and 133

c 191 , 225 , 237 , 241 and 255

9 Factorize each of the following numbers to its prime factors :

a 132 b 112 c 400

d 702 e 888 f 275

10 Write all prime numbers less than 30

....

11 Write all prime numbers between 46 and 62

....

12 Write all non-prime numbers between 5 and 23

....

13 Two numbers , the prime factors of the first are 2 , 2 , 2 , 3 and 3 , and the prime factors of the second are 2 , 2 , 2 , 2 and 3

Find the two numbers.

- The first number = ...
- The second number = ...

Think and answer

I'm a number , formed from four different prime numbers where my tens digit is the smallest prime number, my hundreds digit is the smallest odd prime number, and my units digit is divisible by 5 Who am I ?

....



LESSON 4 — Common factors for two or more numbers and highest common factor (H.C.F.)

A common factor of two numbers is a factor of each of these two numbers.

Example

- The factors of 18 are : (1) , (2) , (3) , (6) , 9 and 18
- The factors of 24 are : (1) , (2) , (3) , 4 , (6) , 8 , 12 and 24

18	24
1 × 18	1 × 24
2 × 9	2 × 12
3 × 6	3 × 8
	4 × 6

We notice that :

- The factors (1) , (2) , (3) and (6) are factors of both numbers 18 and 24

  So, they are called common factors of 18 and 24

- and the factor 6 is the highest common factor of 18 and 24 and is symbolized as H.C.F.

Generally

The highest common factor (H.C.F.) for a set of numbers is the highest number that all the numbers are divisible by.

- Now , we will study the methods of getting the (H.C.F.) of two numbers or more.

Lesson 4

The first method

1. Find the factors of each number.
2. Determine the common factors of these numbers.
3. Get the highest factor of the common factors , then it will be the H.C.F.

Example 1

Find the H.C.F. of : 24 , 48 and 60

Solution

- The factors of 24 are : (1) , (2) , (3) , (4) , (6) , 8 , (12) and 24
- The factors of 48 are : (1) , (2) , (3) , (4) , (6) , 8 , (12) , 16 , 24 and 48
- The factors of 60 are : (1) , (2) , (3) , (4) , 5 , (6) , 10 , (12) , 15 , 20 , 30 and 60
- The common factors are : (1) , (2) , (3) , (4) , (6) and (12)
- The highest common factor (H.C.F.) is (12)

The second method

1. Factorize each number to its prime factors.
2. Find the common prime factors.
3. Find the product of these common prime factors to get the H.C.F.

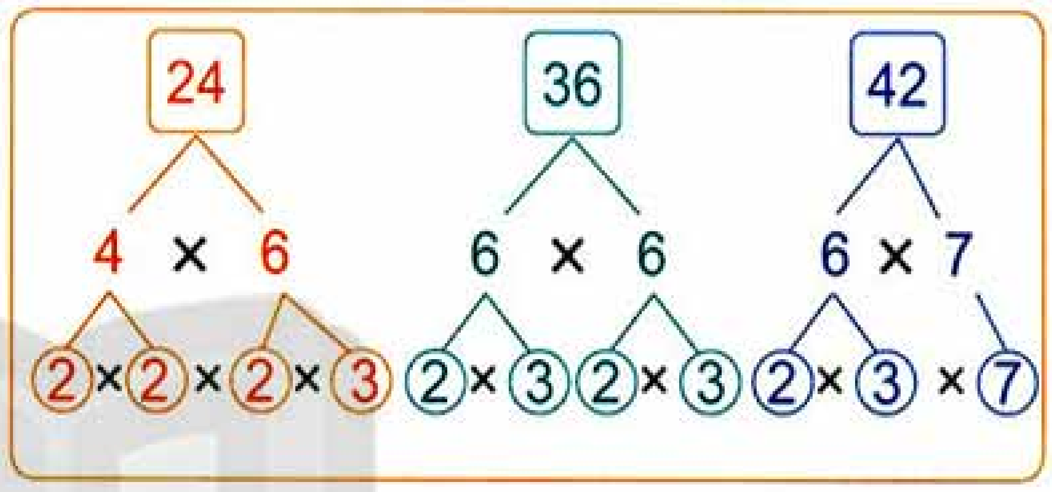
Example 2

Find the H.C.F. of the numbers : 24 , 36 and 42

Solution

24	2	36	2	42	2
12	2	18	2	21	3
6	2	9	3	7	7
3	3	3	3	1	
1		1			

or



$$24 = ② \times 2 \times 2 \times ③$$
$$36 = ② \times 2 \times ③ \times 3$$
$$42 = ② \times ③ \times 7$$

Therefore, the H.C.F. $= ② \times ③ = 6$

Remarks

1. 1 is a common factor for all numbers.
2. 1 isn't the highest common factor of two numbers or more.
3. If 1 is the only common factor of two numbers or more , then there is no H.C.F. to these numbers.
4. There is no H.C.F. between the prime numbers.

EXERCISE 15

Common factors for two or more numbers and highest common factor (H.C.F.)

From the school book

1 Complete as in the example :

Example

To find (H.C.F.) of 30 , 45 and 60 :

- The factors of 30 are : ①, 2 , ③, ⑤, 6 , 10 , ⑮ and 30
- The factors of 45 are : ①, ③, ⑤, 9 , ⑮ and 45
- The factors of 60 are : ①, 2 , ③, 4 , ⑤, 6 , 10 , 12 , ⑮, 20 , 30 and 60
- The common factors of 30 , 45 and 60 are : ①, ③, ⑤ and ⑮
- The (H.C.F.) of 30 , 45 and 60 is : 15

a To find the (H.C.F.) of 15 and 25 :

- The factors of 15 are ....
- The factors of 25 are ....
- The common factors of 15 and 25 are ....
- The (H.C.F.) of 15 and 25 is ....

b To find the (H.C.F.) of 7 and 14 :

- The factors of 7 are ....
- The factors of 14 are ....
- The common factors of 7 and 14 are ....
- The (H.C.F.) of 7 and 14 is ....

c To find the (H.C.F.) of 18 , 24 and 36 :

- The factors of 18 are ....
- The factors of 24 are ....
- The factors of 36 are ....
- The common factors of 18 , 24 and 36 are ....
- The (H.C.F.) of 18 , 24 and 36 is ....

2 Find the highest common factor (H.C.F.) as in the example :

Example

$24 = 2 \times 2 \times 2 \times 3$

$36 = 2 \times 2 \times 3 \times 3$

H.C.F. $= 2 \times 2 \times 3 = 12$

a

18 = ...

24 = ...

H.C.F. = ...

b

28 = ...

42 = ...

H.C.F. = ...

c

54 = ...

18 = ...

H.C.F. = ...

d

24 = ...

40 = ...

72 = ...

H.C.F. = ...

e

60 = ...

75 = ...

45 = ...

H.C.F. = ...

3 Answer the following :

a Find all the factors for each of the numbers 16 and 20

b Find the common factors for the numbers 16 and 20

c Find the H.C.F. of the numbers 16 and 20

4 Put (✓) for the correct statement and (✗) for the incorrect one :

a The common factors of 15 and 30 are 1 , 5 and 15 ( )

b The common factors of 9 and 36 are 1 and 3 ( )

c 1 is the H.C.F. of 8 and 17 ( )

d The H.C.F. of 4 and 6 is 12 ( )

e The H.C.F. of 4 and 8 is 2 ( )

f The H.C.F. of 30 and 60 is 10 ( )

g 1 is the H.C.F. of any two prime numbers. ( )

h 0 is a common factor of every set of numbers. ( )

i There are no common factors of 19 and 17 ( )

j All the factors of 50 are factors of 10 ( )

5 Choose the correct answer between brackets :

a The H.C.F. of 7 and 56 is .... (1 or 7 or 56)

b The H.C.F. of 24 , 36 and 48 is .... (24 or 12 or 6)

c The H.C.F. of 66 , 33 and 44 is .... (2 or 11 or 3)

d The H.C.F. of 60 , 30 and 45 is .... (5 or 10 or 15)

6 Complete :

a The common factors of 20 and 40 are ....

b The common factor of all numbers is ....

c The H.C.F. of 18 and 27 is ....

d The H.C.F. of 32 and 64 is ....

e The H.C.F. of 50 and 75 is ....

7 Find the common factors of :

a 2 and 6 b 8 and 16 c 12 and 28

d 17 and 34 e 54 and 63 f 21 and 63

g 25 , 30 and 40 h 42 , 56 and 28 i 48 , 36 and 60

8 Find the common factors of the following numbers , then deduce the H.C.F. of them :

a 4 and 12 b 14 and 35 c 21 and 36

d 45 and 63 e 39 and 78 f 36 and 84
g 28 , 42 and 48 h 75 , 35 and 70 i 14 , 35 and 42

9 **Factorize the following numbers to their prime factors , then find the H.C.F. for them :**

a 6 and 15 b 3 , 6 and 18 c 10 , 15 and 35
d 12 , 42 and 60 e 21 , 42 and 63 f 56 , 70 and 84
g 36 , 48 and 24 h 96 , 32 and 48 i 60 , 75 and 90

10 **Find H.C.F. for each of the following groups of numbers :**

a 20 and 30 b 35 and 49 c 12 and 16
d 24 , 40 and 56 e 15 , 18 and 21 f 6 , 7 and 8
g 18 , 30 and 42 h 46 , 69 and 115 i 39 , 65 and 117

11 Two numbers , the prime factors of the first are 3 , 3 and 5 and the prime factors of the second are 2 , 2 , 3 and 5 , then :

- The first number = ...
- The second number = ...
- Their H.C.F. = ...

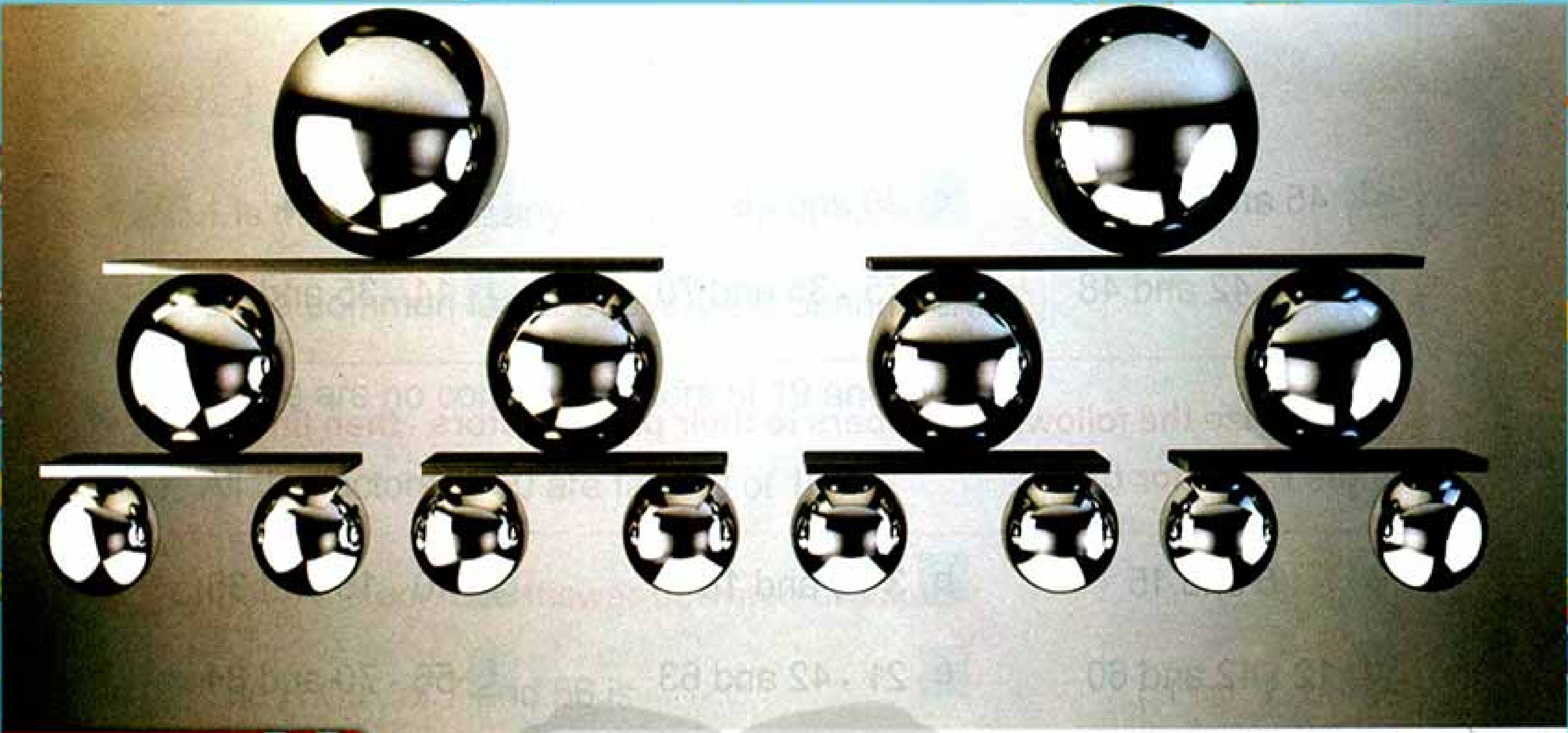
12 If H.C.F. of two numbers is 7 , then what are the two numbers? (Give three possible answers)

....

Think and answer

If the H.C.F. of three numbers equals one of these numbers, then what are the three numbers ? (Give three possible answers)

....



LESSON 5 Common multiples for two or more numbers and lowest common multiple (L.C.M.)

A common multiple of two numbers is a multiple of each of these two numbers.

Example

- The multiples of 4 are : (0) , 4 , 8 , (12) , 16 , 20 , (24) , 28 , 32 , (36) , 40 , ... etc.
- The multiples of 6 are : (0) , 6 , (12) , 18 , (24) , 30 , (36) , 42 , ... etc.

We notice that :

- The multiples : (0) , (12) , (24) , (36) , ... etc. are multiples of both numbers 4 and 6

So , they are called **common multiples** of 4 and 6

The lowest common multiple for a set of numbers is the smallest number (other than zero) that is divisible by each of these numbers , then it is a multiple for each of these numbers individually and is abbreviated as L.C.M.

From the previous example :

The lowest common multiple (other than 0) of 4 and 6 is 12 , therefore : L.C.M. = 12

- Now , we will study the methods of getting the (L.C.M.) of two numbers or more.

The first method

1. Find the multiples of each number.
2. Find the common multiples of these numbers.
3. The smallest multiple (other than zero) of them will be the L.C.M.

Example 1

Find the L.C.M. of : 9 and 12

Solution

- The multiples of 9 are : (0) , 9 , 18 , 27 , (36) , 45 , 54 , 63 , (72) , ... etc.
- The multiples of 12 are : (0) , 12 , 24 , (36) , 48 , 60 , (72) , 84 , 96 , ... etc.

So , the common multiples of 9 and 12 (other than zero) are : (36) , (72) , ... etc.

Thus , the L.C.M. of 9 and 12 is : (36)

The second method

Factorize the two numbers to their prime factors.

The following example illustrates the steps of this method.

Example 2

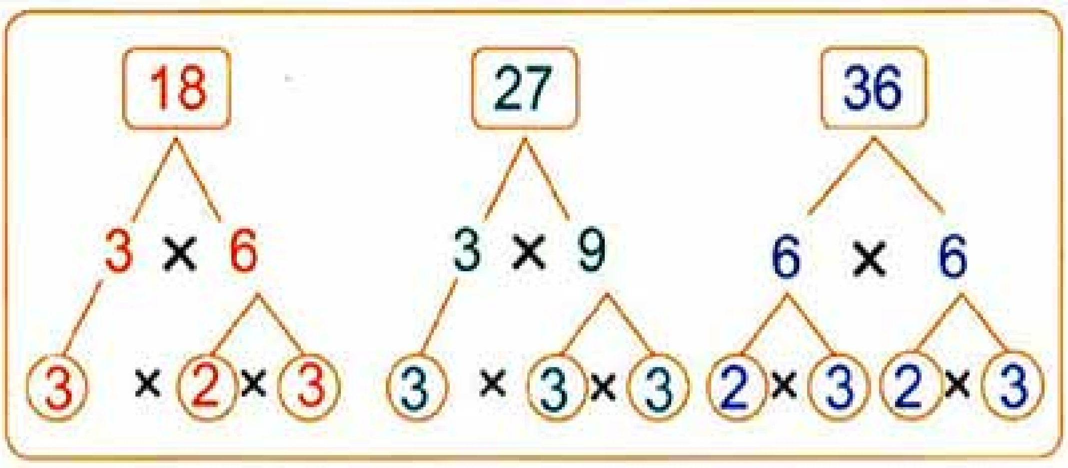
Find the L.C.M. of : 18 , 27 and 36

Solution

Factorize each number to its prime factors.

18	2	27	3	36	3
9	3	9	3	12	3
3	3	3	3	4	2
1		1		2	2
				1	

or



$$18 = 2 \times 3 \times 3$$
$$27 = 3 \times 3 \times 3$$
$$36 = 2 \times 3 \times 3 \times 2$$

Therefore , the L.C.M. $= 2 \times 3 \times 3 \times 3 \times 2 = 108$

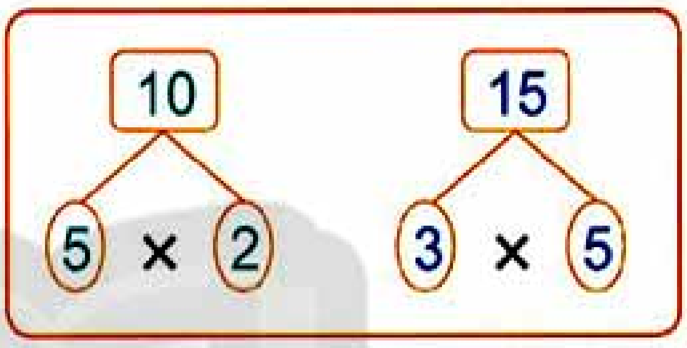
Example 3

Find the H.C.F. and the L.C.M. of the two numbers 10 and 15 , then find their product , and compare it with the product of the two numbers.

Solution

10	2	15	3
5	5	5	5
1		1	

or



10 = 5 × 2

15 = 5 × 3

H.C.F. = 5

L.C.M. = 5 × 2 × 3 = 30

H.C.F. × L.C.M. = 5 × 30 = 150

And , 10 × 15 = 150

Thus , H.C.F. × L.C.M. = the product of the two numbers.

Remarks

1. The product of any two numbers equals the product of their H.C.F. and L.C.M.
2. Zero is a common multiple of all whole numbers, but it isn't a lowest common multiple.

EXERCISE 16

Common multiples for two or more numbers and lowest common multiple (L.C.M.)

From the school book

1 Complete as in the example :

Example

To find the L.C.M. of 12 and 18 :

- The multiples of 12 are : (0) , 12 , 24 , (36) , 48 , 60 , (72) , ··· etc.
- The multiples of 18 are : (0) , 18 , (36) , 54 , (72) , ··· etc.
- The common multiples of 12 and 18 (other than 0) are : 36 , 72 , ··· etc.
- The (L.C.M.) of 12 and 18 is 36

a To find the L.C.M. of 6 and 9 :

- The multiples of 6 are : ....
- The multiples of 9 are : ....
- The common multiples of 6 and 9 (other than 0) are : ....
- The (L.C.M.) of 6 and 9 is : ....

b To find the L.C.M. of 3 and 6 :

- The multiples of 3 are : ....
- The multiples of 6 are : ....
- The common multiples of 3 and 6 (other than 0) are : ....
- The (L.C.M.) of 3 and 6 is : ....

c To find the L.C.M. of 7 and 14 :

- The multiples of 7 are : ....
- The multiples of 14 are : ....
- The common multiples of 7 and 14 (other than 0) are : ....
- The (L.C.M.) of 7 and 14 is : ....

d To find the L.C.M. of 6 , 10 and 15 :

- The multiples of 6 are : ....
- The multiples of 10 are : ....
- The multiples of 15 are : ....
- The common multiples of 6 , 10 and 15 (other than 0) are : ....
- The (L.C.M.) of 6 , 10 and 15 is : ....

2 Complete as in the example :

Example

24 = 2 × 2 × 2 × 3
40 = 2 × 2 × 2 × 5
L.C.M. = 2 × 2 × 2 × 3 × 5 = 120

a

15 = ...
18 = ...
L.C.M. = ...

b

36 = ...
24 = ...
L.C.M. = ...

c

12 = ...
9 = ...
18 = ...
L.C.M. = ...

d

6 = ...
9 = ...
8 = ...
L.C.M. = ...

e

4 = ...
12 = ...
15 = ...
L.C.M. = ...

3 Write :

a The multiples for the number 3 up to 63

b The multiples for the number 7 up to 63

c All the common multiples for the numbers 3 and 7 up to 63

d The L.C.M. for the numbers 3 and 7

4 Write :

a The multiples for the number 2 up to 30

b The multiples for the number 3 up to 30

c The multiples for the number 5 up to 30

d All the common multiples for the numbers 2 , 3 and 5 up to 30

e The L.C.M. for the numbers 2 , 3 and 5

5 Put (✓) for the correct statement and (×) for the incorrect one :

a The L.C.M. of 6 and 15 is 60 ( )

b The L.C.M. of 3 and 7 is 14 ( )

c The L.C.M. of 6 , 9 and 21 is 96 ( )

d The L.C.M. of 4 , 6 and 9 is 32 ( )

e All common multiples of 3 and 4 is also a multiple of 12 ( )

f The number 15 is a common multiple for the numbers 2 , 3 and 5 ( )

g All the multiples of 20 are greater than or equal to 20 ( )

h There are no common multiples of 7 and 9 ( )

i All the multiples of 100 are 3-digit numbers. ( )

j Any whole number is a multiple of 1 ( )

6 Choose the correct answer between brackets :

a The L.C.M. of 3 and 6 is .... (6 or 12 or 18)

b The L.C.M. of 6 and 10 is .... (60 or 30 or 15)

c The L.C.M. of 5 , 9 and 6 is .... (90 or 45 or 180)

d The L.C.M. of 12 , 16 and 32 is .... (48 or 24 or 96)

7 Complete :

a The common factor of all the whole numbers is ....

b The common multiple of all the whole numbers is ....

c If the common factor of two numbers is 12 , then the two numbers may be .... and ....

d The common multiple of two numbers is 28 , then the two numbers may be .... and ....

8 Find all the common multiples between 50 and 100 for the numbers :

a 3 and 5 b 4 and 6 c 2 , 7 and 8

9 Answer the following :

a Factorize each of the numbers 8 and 18 to their prime factors.

b Find the L.C.M. for the numbers 8 and 18

10 Find the L.C.M. for the numbers $(5 \times 7 \times 13)$ and $(2 \times 5 \times 11)$

11 Find the L.C.M. for the numbers $(2 \times 3 \times 5 \times 7)$ and $(3 \times 3 \times 7)$

12 Two numbers , the prime factors of the first are 2 , 3 , 5 and 7 , and the prime factors of the second are 3 , 5 and 11
Find the two numbers , then find their H.C.F. and L.C.M.

13 Two numbers , the prime factors of the first are 2 , 2 , 5 and 5 , and the prime factors of the other are 2 , 2 , 5 and 7
Find the two numbers , then find their H.C.F. and L.C.M.

14 **For each group of numbers , find the multiples of each number and find the common multiples of them , then deduce the L.C.M. :**

a 4 and 8
b 6 and 5
c 9 and 12
d 8 and 20
e 11 and 22
f 24 and 16
g 6 , 9 and 18
h 27 , 9 and 18
i 48 , 24 and 12

15 **For each group of the following numbers , use the prime factorization of each number to find the L.C.M. :**

a 3 and 5
b 8 and 12
c 7 and 9
d 6 and 14
e 16 and 22
f 12 and 16
g 10 , 12 and 15
h 18 , 30 and 42
i 12 , 42 and 60

16 **Find the H.C.F. and the L.C.M. of each of the following groups of numbers :**

a 12 and 14
b 18 and 20
c 24 and 36
d 14 , 21 and 35
e 25 , 30 and 45
f 18 , 27 and 45
g 36 , 40 and 56
h 8 , 12 and 22
i 16 , 24 and 40

17 Two numbers , one of them is 12 , their H.C.F. is 2 , and their L.C.M. is 60
Find the other number.

18 **Complete the following table :**

First number	Second number	Their H.C.F.	Their L.C.M.
....	40	5	200
....	16	8	48
20	....	4	60

Lesson 5

19 Write :

a 4 common multiples of 6 and 9

b Three common multiples for the numbers 2 , 7 and 10

c 3-digit common multiple of 5 and 8

d The greatest multiple of 10 , which is formed from 3 digits.

e All the multiples of 4 less than 60 , which have not the digit 4

f The least multiple of 10 , which is formed from 5 digits.

g The common multiples of 17 and 5 which are less than 300

---

20 If you know that the lowest common multiple for two numbers is 24 , what are the two numbers? (Give more than one answer)

Think and answer

1 Marwa waters one of her plants every 4 days and another plant every 6 days. If she waters both plants today, when is the next time both plants will be watered on the same day ?



---

2 If the L.C.M. of two numbers is 36 and their H.C.F. is 3
What are the possible numbers ?

---

3 If the L.C.M. of two numbers is 18 and their H.C.F. is 3
What are the possible numbers ?



Activities from the school book

Activity 1

Find : **a** The common multiple of all numbers.

b The common factor of all numbers.

Activity 2

First : Complete the following table :

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10							
3	6	9	12								
4	8	12									
5	10										
6											
7											
8											
9											
10											
11											
12											

Second : Use the table above to complete the following :

a The number 108 is divisible by .... and ....

b The number .... is divisible by 11 and 12

c The number 54 is considered a common multiple for the two numbers .... and ....

d Multiples of 12 that are less than 150 are ....

e The number 11 is considered one of the factors of the numbers ....



GENERAL EXERCISE

From the school book

Unit Three "Multiples, factors and divisibility"

1 Complete each of the following :

1. L.C.M. of the numbers 36 , 24 and 12 is ....
2. H.C.F. of the numbers 35 , 42 and 28 is ....
3. The prime numbers that are included between 2 and 30 are ....
4. The prime number that lies between 6 and 10 is ....
5. The number whose factors are 2 , 3 and 5 is ....
6. From the numbers : 865 , 570 , 552 , 175 , 577 and 546

   Complete the following :

   (a) Numbers that are divisible by 2 are ....

   (b) Numbers that are divisible 5 are ....

   (c) Numbers that are divisible by 10 are ....

2 Choose the correct answer :

1. .... is one of the factors of the number 8

   a. 16   b. 4   c. 20

2. The numbers 1 , 5 and 7 are .... numbers.

   a. even   b. odd   c. prime

3 54 is a number that is divisible by ....

a. 4 b. 6 c. 7

4 The number .... is divisible by 5

a. 495 b. 594 c. 54

5 The numbers 2 , 3 , 5 and 7 are called .... numbers.

a. prime b. odd c. even

6 The number of the factors of the prime number is ....

a. one b. two c. three

7 The number .... is a prime number.

a. 15 b. 17 c. 21

8 L.C.M. for the numbers 8 and 12 is ....

a. 24 b. 48 c. 4

9 The number .... is divisible by each of 2 and 5

a. 72 b. 25 c. 100

10 The prime number after the number 399 is ....

a. 400 b. 401 c. 403

---

3 Factorize the number 120 to its prime factors.

---

4 Underline the numbers that are divisible by 2 and 3 :

1 929 – 3 431 – 3 330 – 2 112 – 1 064

---

5 Find a prime number lies between 11 and 37

---

6 Find L.C.M. and H.C.F. for the numbers 12 and 15

4 UNIT

Measurement

Lessons of the unit :

1. Lengths.
2. Areas.

- Activities and general exercise from the school book.





LESSON 1 Lengths

• In our previous studies , we knew that the lengths are measured in units as kilometre , metre and centimetre.

Remember that :

The kilometre «km.»

A kilometre (km.) is used in measuring large lengths as :
the distance between two cities , the length of long streets and roads.

1 kilometre «km.» = 1 000 metres «m.»

It takes about 10 minutes to walk 1 kilometre.



Lesson 1

The metre «m.»

A metre (m.) is used in measuring lengths as : rooms , playgrounds , and heights as towers and buildings.

1 metre «m.» = 100 centimetres «cm.»

A door is about 1 metre wide.



The centimetre «cm.»

A centimetre (cm.) is used in measuring small lengths as pens and keys.

1 centimetre «cm.» = 10 millimetres «mm.»

A child's finger is about 1 centimetre wide.



Now , we will study other units of lengths as decimetre and millimetre.

The decimetre «dm.»

A decimetre (dm.) is used in measuring lengths.

1 decimetre «dm.» = 10 centimetres «cm.»

An adult's hand is about 1 decimetre wide.



Remark

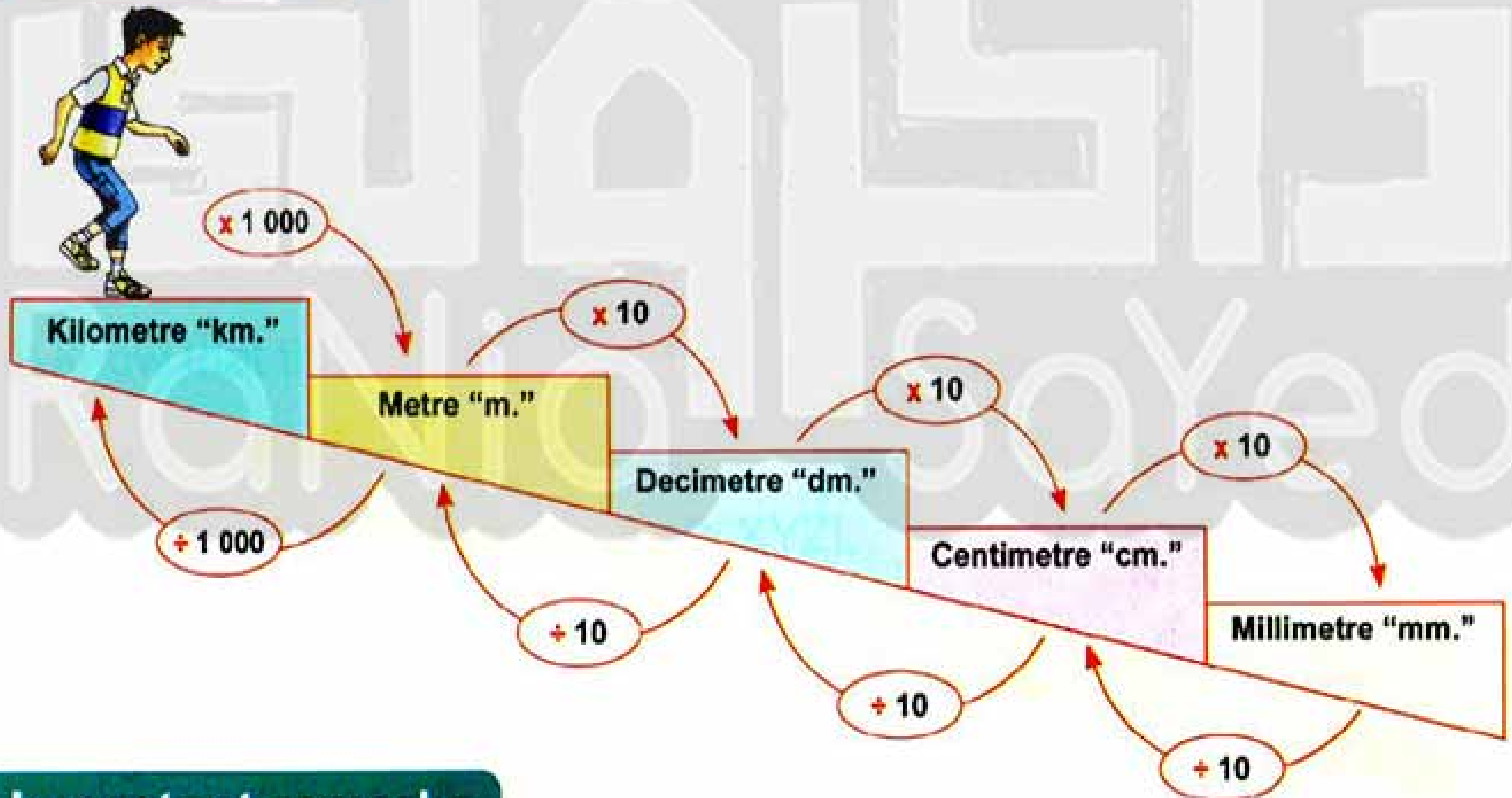
1 metre (m.) = 10 decimetre (dm.)

The millimetre «mm.»

A millimetre (mm.) is used in measuring very small lengths as small insects.



Notice that :



Important remarks

1. To convert a larger unit to a smaller unit , we multiply.
2. To convert a smaller unit to a larger unit , we divide.

Lesson 1

The perimeter of the square and the rectangle

- In our previous studies , we knew that :

The perimeter of any polygon equals the sum of its side lengths.

In the following figures :

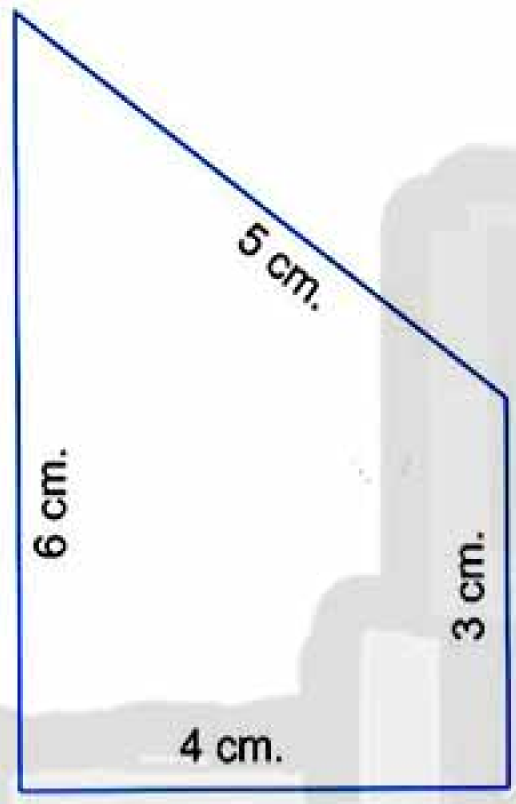


Fig. (1)

The perimeter = 3 + 4 + 5 + 6 = 18 cm.

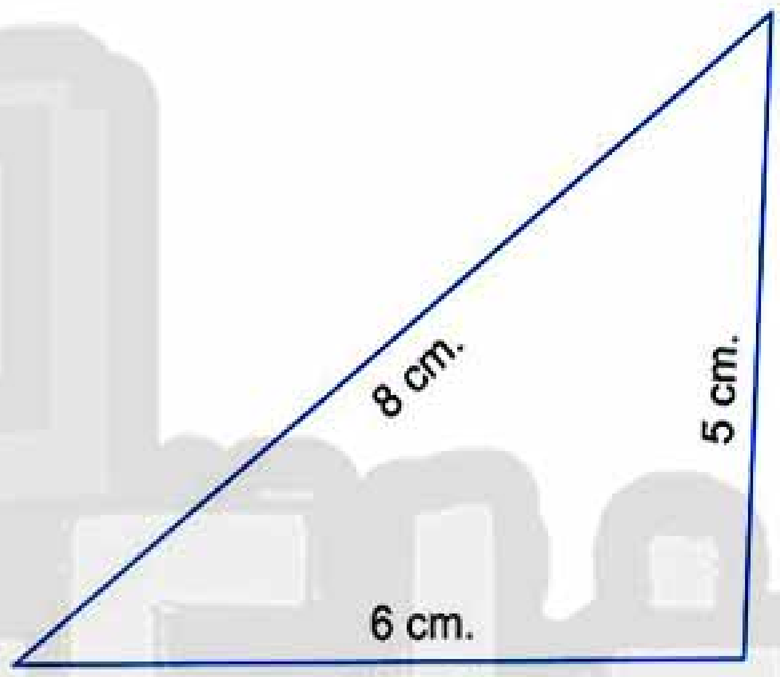


Fig. (2)

The perimeter = 5 + 6 + 8 = 19 cm.

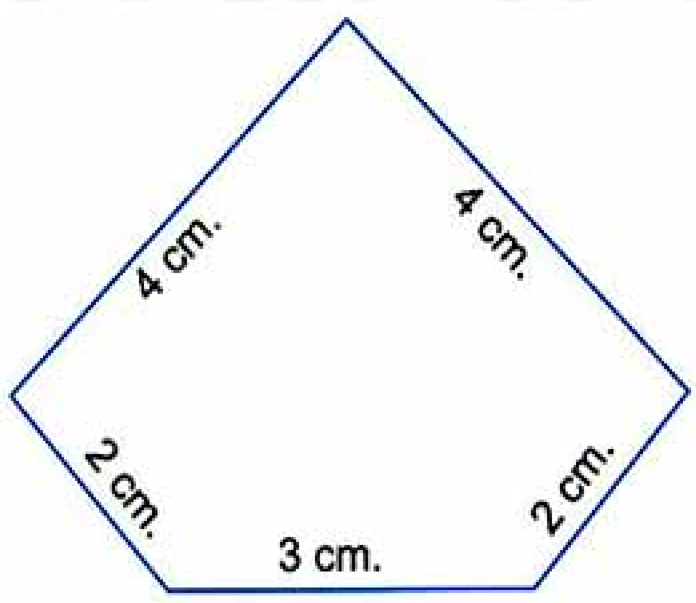


Fig. (3)

The perimeter
= 2 + 2 + 3 + 4 + 4 = 15 cm.

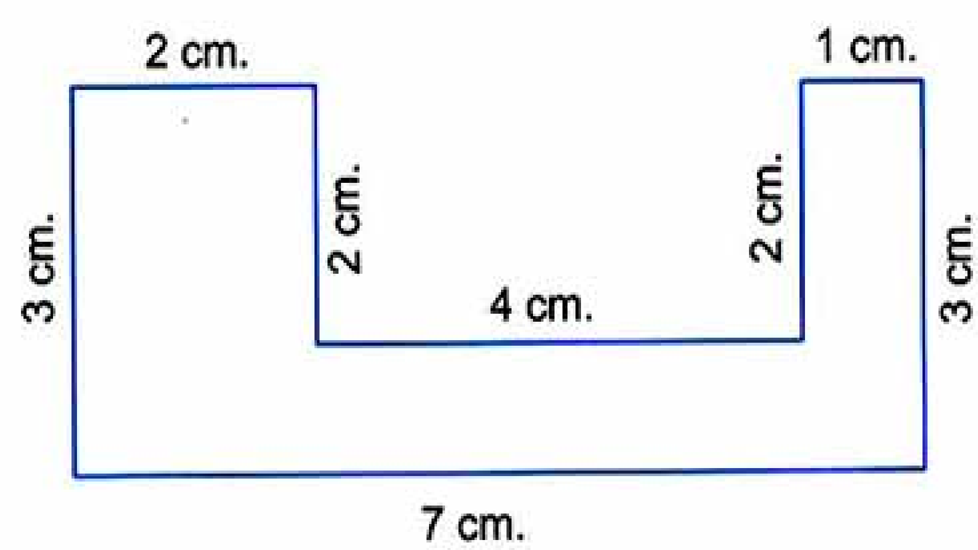
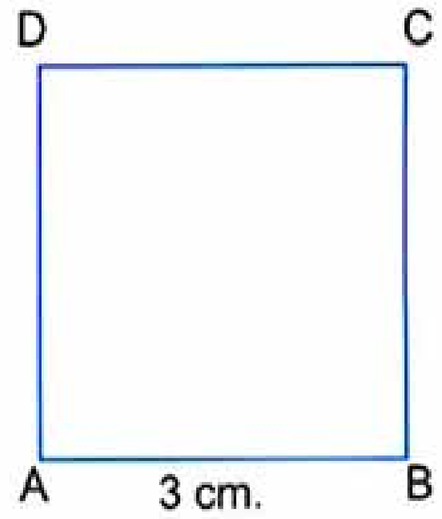


Fig. (4)

The perimeter
= 7 + 3 + 2 + 2 + 4 + 2 + 1 + 3 = 24 cm.

First: The perimeter of the square

We know that the square has four sides that are equal in length.



So, the perimeter of the square ABCD

$= 3 + 3 + 3 + 3 = 12$ cm.

Or $= 3 \times 4 = 12$ cm.

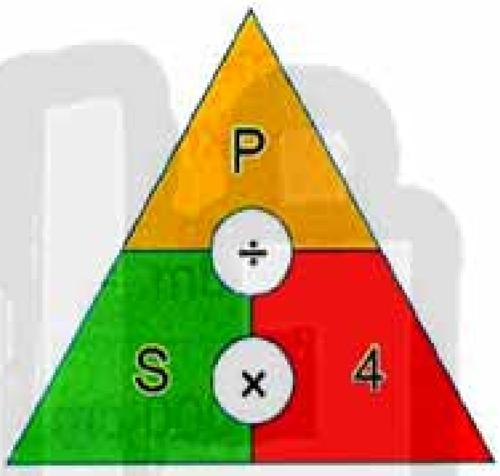
Therefore, we can deduce the following rule :

> The perimeter of the square = the side length × 4

Also,

> The side length of the square = the perimeter of the square ÷ 4

- If we denote the perimeter by the symbol (P) and the side length by (S) , then see the opposite diagram :

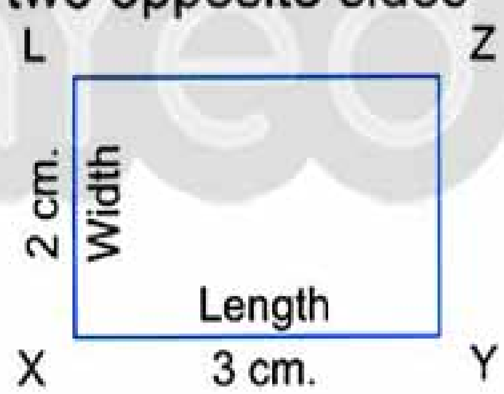


We note that :

(1) $P = S \times 4$ (2) $S = P \div 4$

Second: The perimeter of the rectangle

We know that the rectangle has four sides and each two opposite sides are equal in length.



So, the perimeter of the rectangle XYZL

$= 3 + 3 + 2 + 2 = 10$ cm.

Or $= 3 + 2 + 3 + 2 = (3 + 2) \times 2 = 10$ cm.

Therefore, we can deduce the following rule :

> The perimeter of the rectangle = (length + width) × 2

Remark

The length and the width of the rectangle are called the dimensions of the rectangle.

EXERCISE 17

Lengths

From the school book

1 Complete as in the example :

Example

7 km. = 7 000 m.

a 5 m. = ... cm.

b 4 metres = ... centimetres.

c 6 m. = ... dm.

d 3 cm. = ... mm.

e 8 km. = ... m. = ... dm.

f 9 m. = ... dm. = ... cm.

g 8 m. = ... mm.

h 2 dm. = ... mm.

i .... km. = 4 000 m.

j .... cm. = 3 m.

k .... dm. = ... cm. = 700 mm.

l .... m. = 60 dm. = ... cm.

m 8 000 cm. = ... m.

n .... km. = 2 000 m. = ... dm.

o 4 000 m. = ... km. = ... dm.

p 4 km. = ... m. = ... cm.

q 50 000 dm. = ... km. = ... m.

2 Arrange the following units of length in an ascending order :

a Kilometre , metre , millimetre and decimetre.

....

b Centimetre , millimetre , kilometre and metre.

....

c Centimetre , decimetre , millimetre , kilometre and metre.

....

3 Choose the suitable unit of measurement for measuring the following between brackets as in the example :

Example
The length of a pencil. (m. or (cm.) or km.)

a The length of your trousers. (mm. or km. or cm.)

b The height of Cairo tower. (m. or mm. or dm.)

c The distance between Cairo and Alexandria. (mm. or dm. or km.)

d The height of the class door. (mm. or km. or m.)

e The length of an ant. (km. or mm. or m.)

f The height of a pupil. (mm. or cm. or km.)

4 Choose the closest answer to the right between brackets as in the example :

Example
The length of a pen = ... (8 m. or 5 km. or (20 cm.))

a The length of my school bus = ... (1 km. or 5 m. or 125 mm.)

b The length of your notebook = ... ($\frac{1}{4}$ km. or 10 dm. or 22 cm.)

c The height of my brother = ... (3 m. or 160 cm. or 160 mm.)

d The height of the greatest pyramid = ... (500 cm. or 150 m. or $\frac{1}{2}$ dm.)

e The length of a taxi = ... (2 km. or 20 m. or 200 cm.)

5 Complete :

a The perimeter of a square = ………………………… × ………

b The perimeter of a rectangle = (……………… + ………………) × ………

c The side length of a square = $\frac{\dots\dots\dots\dots}{\dots\dots\dots\dots}$

d Half of the perimeter of a rectangle = ………

e The perimeter of a square of side length 7 cm. is ……… cm.

f The perimeter of a rectangle with length 6 cm. and width 4 cm. is ……… cm.

g The perimeter of a square of side length 2 dm. is ……… cm.

h The perimeter of a rectangle with dimensions 1 m. and 50 cm. is ……… dm.

i The side length of a square whose perimeter is 36 cm. is ……… cm.

j The width of a rectangle whose perimeter is 30 cm. and its length is 11 cm. is ……… cm.

---

6 Put (✓) for the correct statement and (✗) for the incorrect one (with correcting the incorrect ones) :

a The decimetre > the metre. ( )

b 3 km. = 300 m. ( )

c The perimeter of a square = the side length × 4 ( )

d The perimeter of a rectangle = (length × width) + 2 ( )

e The side length of the square = $\frac{\text{its perimeter}}{2}$ ( )

f Half of the perimeter of a rectangle = length + width. ( )

g The square whose side length is 5 cm. , its perimeter = 25 cm. ( )

h If the perimeter of a rectangle is 20 cm. where its width is 4 cm. , then its length equals 6 cm. ( )

i The perimeter of a rectangle of dimensions 8 cm. and 6 cm. is equal to the perimeter of a square of side length 9 cm. ( )

j The perimeter of a rectangle with dimensions 4 dm. and 3 dm. is 14 cm. ( )

k The difference between the perimeters of two squares with side lengths 8 cm. and 7 cm. is 4 cm. ( )

7 Complete the following tables as in the example :

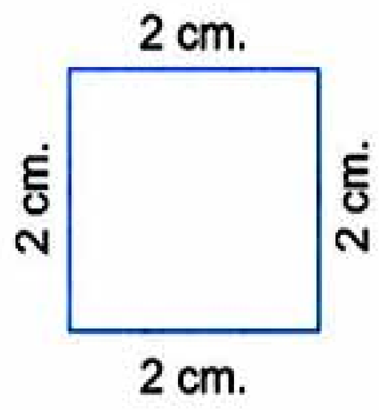
a

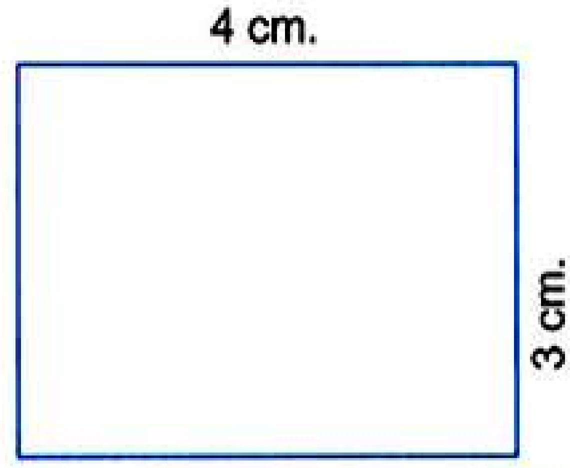
Side length of square	5 cm.	8 cm.	7 dm.	3 m.	····· dm.
Its perimeter	20 cm.	····· cm.	····· dm.	····· dm.	44 dm.

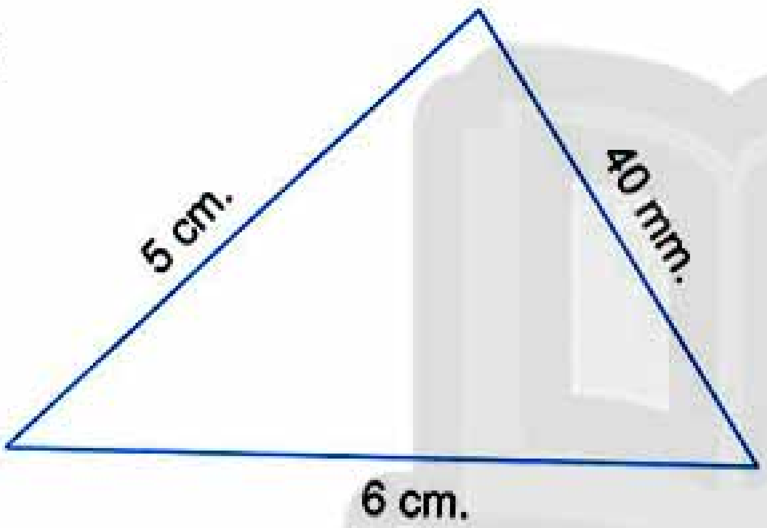
b

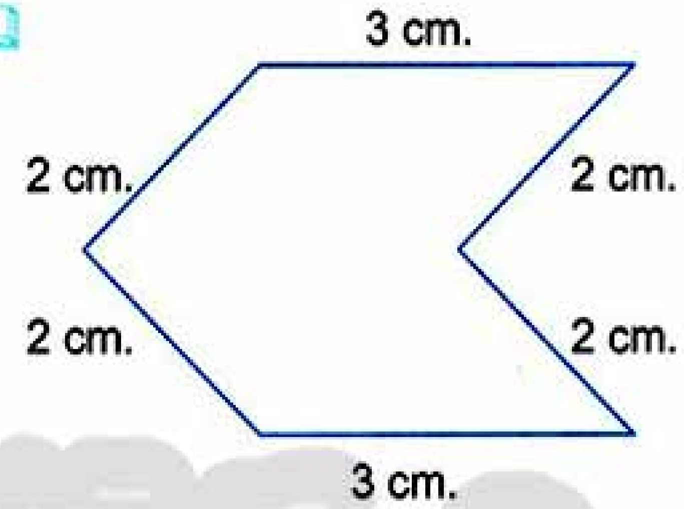
	Length of rectangle	Width of rectangle	Length + width	Its perimeter
Ex	13 cm.	12 cm.	25 cm.	25 × 2 = 50 cm.
1	····· dm.	7 dm.	····· dm.	15 × 2 = 30 dm.
2	24 cm.	···············	···············	····· × 2 = 80 cm.
3	18 dm.	···············	27 dm.	····· × 2 = ····· dm.
4	···············	42 cm.	100 cm.	100 × ····· = ····· cm.

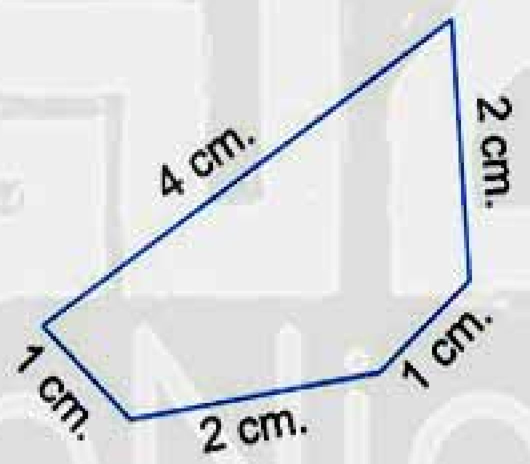
8 Calculate the perimeter of the following figures :

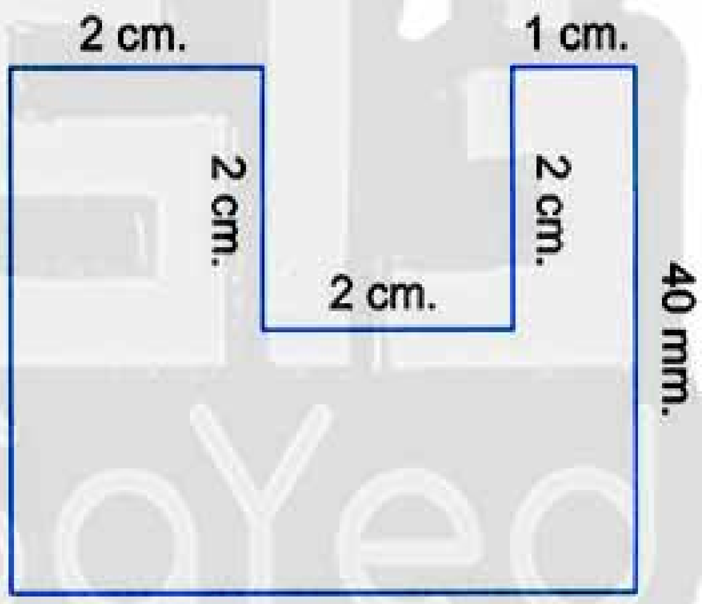
a


b


c


d


e


f


9 Calculate the perimeter of each of the following :

a A square whose side length is 7 cm.

b A rectangle whose length is 9 cm. and width is 6 cm.

c A square of side length 3 dm.

d A rectangle whose dimensions are 2 m. and 150 cm.

e A rectangle whose dimensions are 3 dm. and 20 cm.

10 Which is greater ?

a The perimeter of a rectangle of length 7 cm. and width 4 cm. or the perimeter of a square of side length 6 cm.

b The perimeter of a triangle of sides lengths 5 cm. , 6 cm. and 7 cm. or the perimeter of a square of side length 5 cm.

c The perimeter of a square of side length 5 cm. or the perimeter of an equilateral triangle of side length 7 cm.

11 Find the side length of the square whose perimeter is 160 cm.

12 Calculate in centimetre , the side length of a square whose perimeter is 4 dm.

13 In a rectangle , its length is greater than its width by 2 cm. If the width equals 5 cm. Calculate the perimeter of the rectangle.

14 Find the difference between the perimeters of two squares in which their side lengths are 5 dm. and 15 cm.

15 Find the difference between the perimeters of a square of side length 12 cm. and a rectangle with length 7 cm. and width 3 cm.

16 A square and an equilateral triangle have the same perimeter. If the side length of the square is 3 cm. , find the side length of the triangle.

17 Find the side length of the equilateral triangle whose perimeter equals the perimeter of the rectangle of 5 cm. long and 4 cm. wide.

18 Calculate the perimeter of a rectangle whose length is twice its width , if its width is 6 cm.

19 If the length of a rectangle is 10 dm. , find its perimeter knowing that its width is half its length.

20 The perimeter of a square is 4 times the perimeter of a rectangle whose dimensions 10 cm. and 5 cm. Calculate the side length of the square.

21 If the sum of perimeters of two squares is 76 m. where the side length of one of them is 8 m. , then find the side length of the other square.

22 The sum of the perimeters of two squares is 100 dm. If the side length of one of them is 8 dm. , find the side length of the other square in :

a centimetres. **b** decimetres.

23 Two carpets have the same perimeters. One of them is in the shape of a square of side length 3 metres and the other is in the shape of a rectangle of width 2 metres. Find the length of the rectangle.



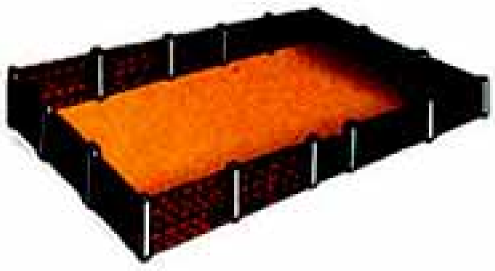
24 Sameh has a garden of a squared-shape with side length 18 metres. He wants to surround it with a fence. If one metre of the fence costs L.E. 10 , then find the cost of the fence.



25 It is wanted to make a frame to a rectangular-shaped picture whose dimensions are 40 cm. and 60 cm. If the cost of one metre of the frame is 3 pounds. What is the cost of the frame ?

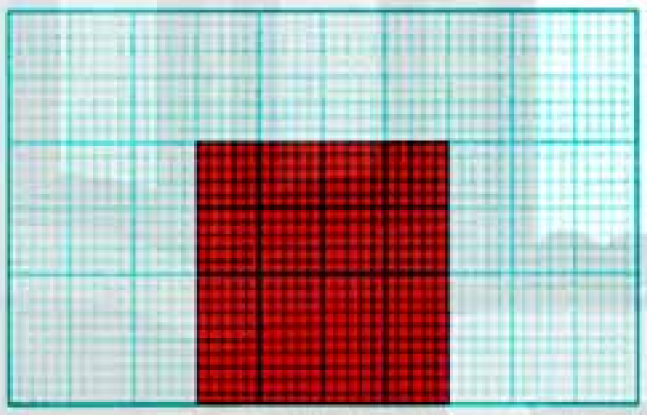


26 The width of a rectangular-shaped piece of land equals $\frac{1}{3}$ of its length. Calculate its perimeter if its width equals 15 metres.

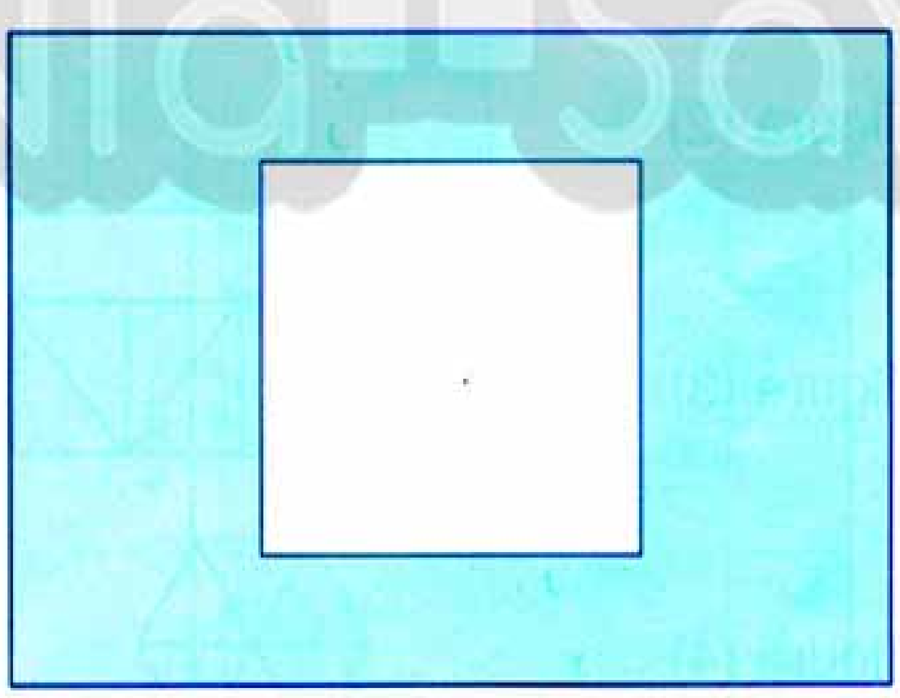


27 The dimensions of a rectangular-shaped picture are $\frac{3}{4}$ m. and 125 cm. Find the cost of the frame to this picture given that the cost of one metre of this frame is L.E. 6

28 Notice the following figure and imagine that you cut the red part. Calculate the perimeter of the remaining part.
(Consider that the side length of the small square is 1 metre.)

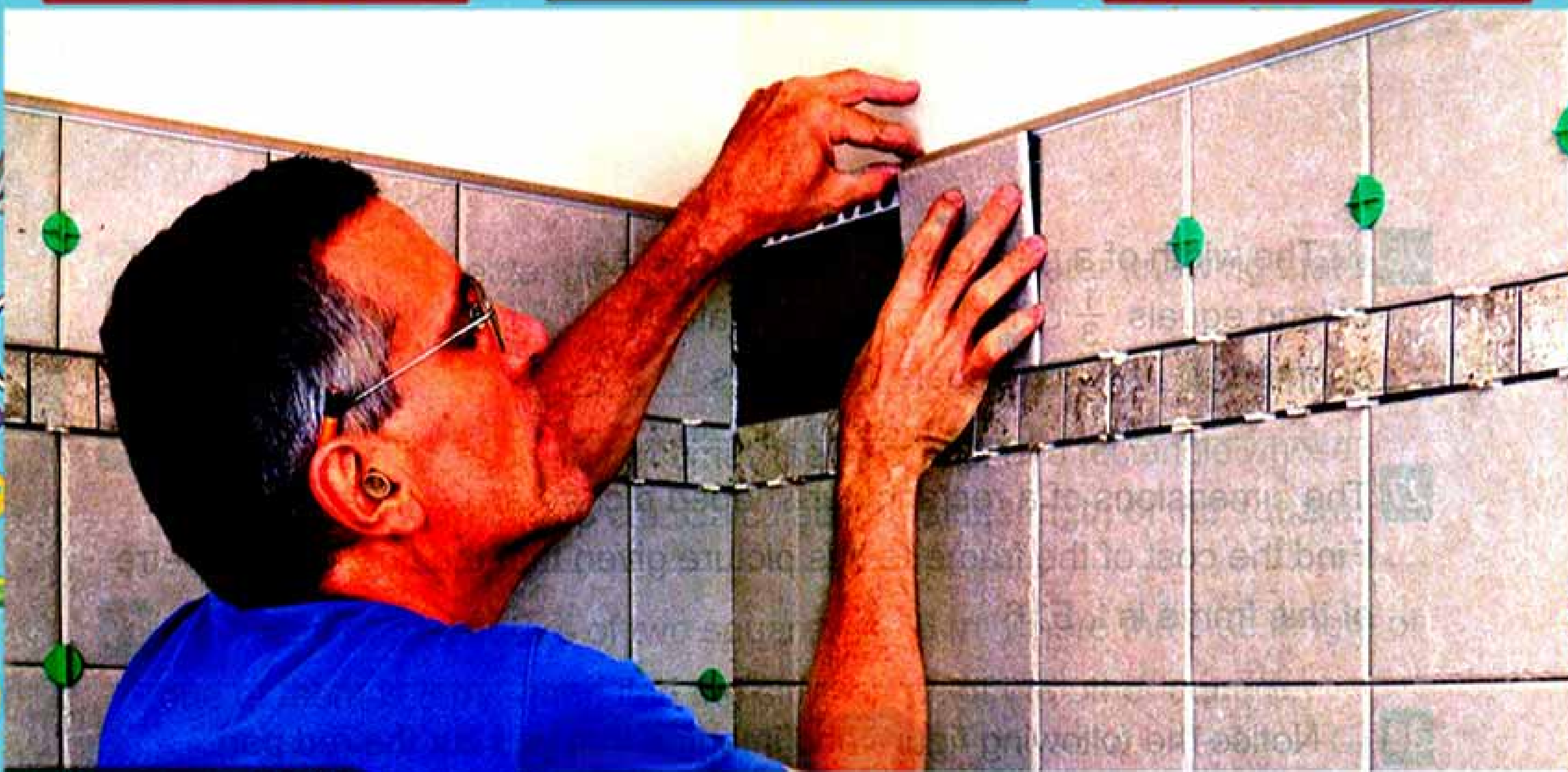


29 The following figure represents a rectangular piece of land whose dimensions are 70 metres and 50 metres. A squared playground whose side is 30 m. long is constructed inside it. If the shaded part is surrounded by a wire from inside and outside, find the length of the wire.



Think and answer

If the perimeter of a rectangle is 24 cm. and its width is half of its length. Calculate its length.



LESSON 2 Areas

In our previous studies, we knew that :

The area of a shape is defined by the number of area units inside that shape.

Example

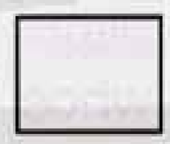
1 The area of figure (1)  = 6 

Fig. (1)

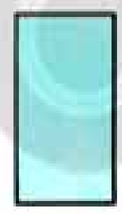
2 The area of figure (2)  = 5 

Fig. (2)

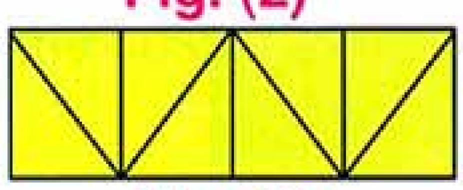
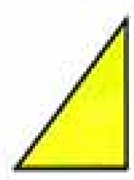
3 The area of figure (3)  = 8 

Fig. (3)

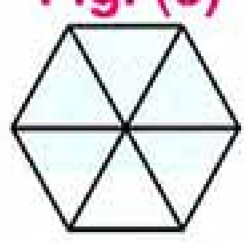
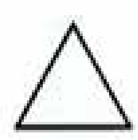
4 The area of figure (4)  = 6 

Fig. (4)

Notice that :

We can't determine which of the previous figures has the greatest area because we use different units.

So, we need a standard units of area to compare between them.

- Consider the square of side length 1 cm. ▢ as a standard unit of area and we call it square centimetre , it is denoted by (cm^2)

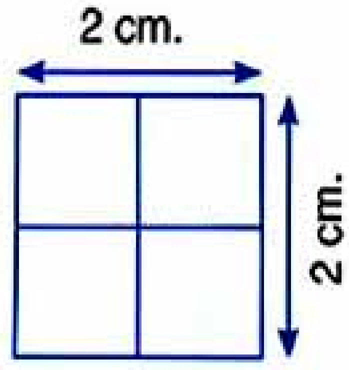


Fig. (1)

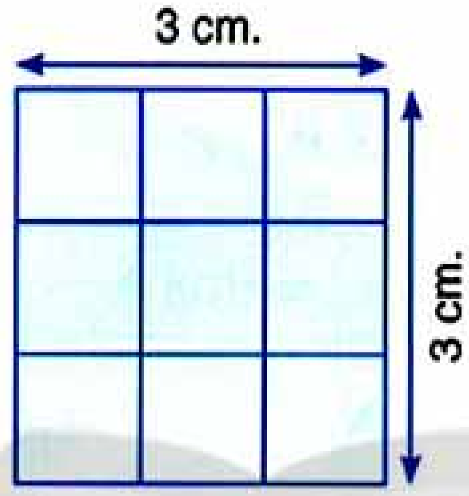


Fig. (2)

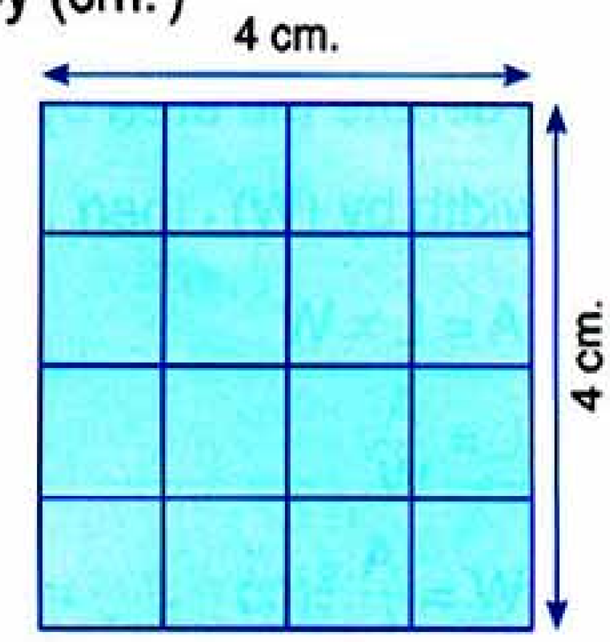


Fig. (3)

Then : The area of fig. (1) = $2 + 2 = 2 \times 2 = 4\ cm^2$

The area of fig. (2) = $3 + 3 + 3 = 3 \times 3 = 9\ cm^2$

The area of fig. (3) = $4 + 4 + 4 + 4 = 4 \times 4 = 16\ cm^2$

So , we can say that :

> The area of the square = side length × side length

- As we did in the squares ,we will do in the area of the following rectangles :

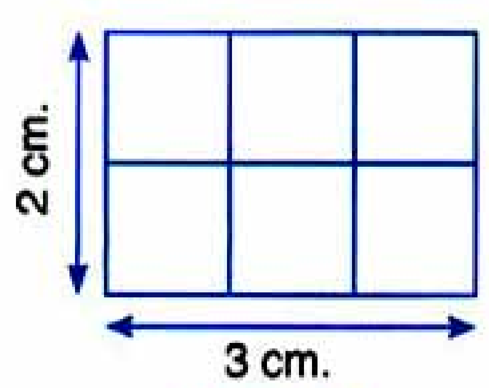


Fig. (1)

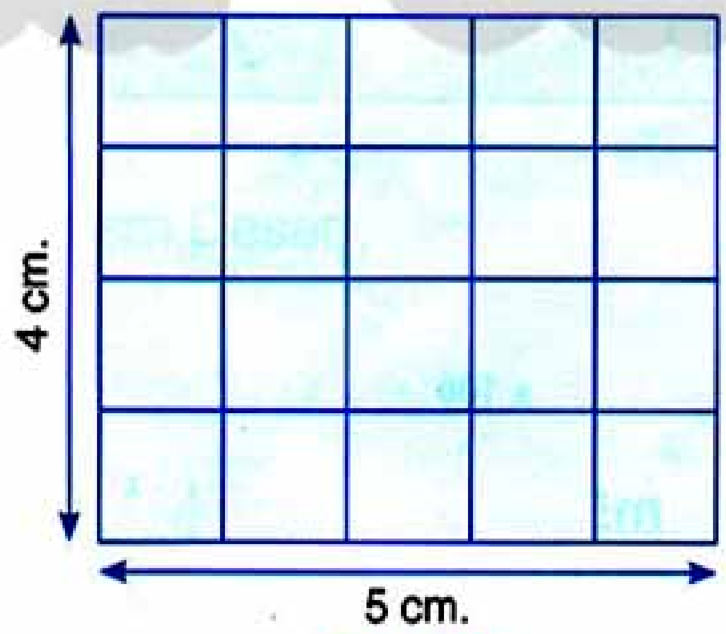


Fig. (2)

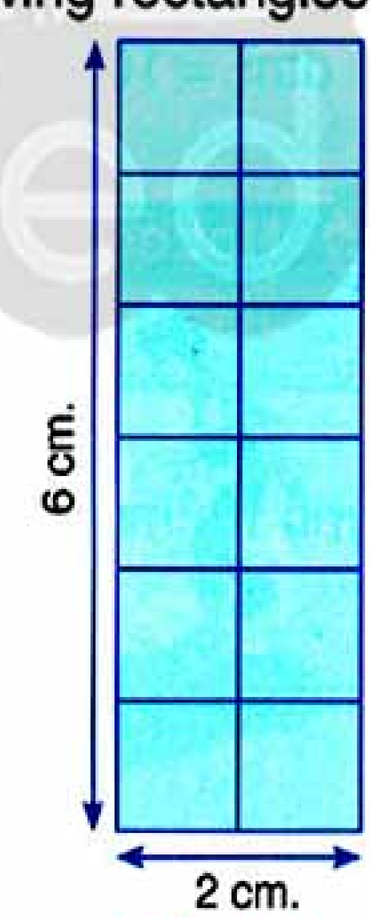


Fig. (3)

The area of fig. (1) = $3 + 3 = 3 \times 2 = 6\ cm^2$

The area of fig. (2) = $5 + 5 + 5 + 5 = 5 \times 4 = 20\ cm^2$

The area of fig. (3) = $2 + 2 + 2 + 2 + 2 + 2 = 2 \times 6 = 12\ cm^2$

Lesson 2

So , we can say that :

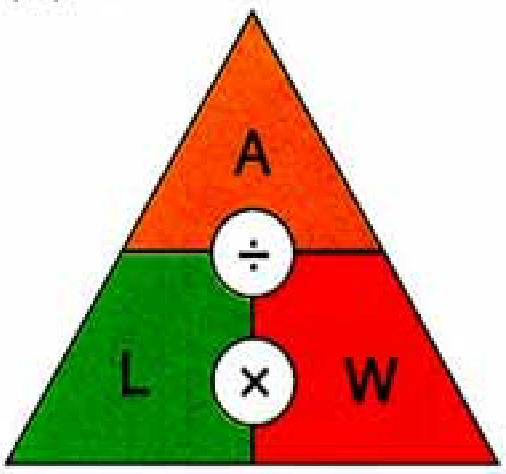
The area of the rectangle = length × width

- If we denote the area by the symbol (A) , the length by (L) and the width by (W) , then :

(1) $A = L \times W$

(2) $L = \frac{A}{W}$

(3) $W = \frac{A}{L}$



Remark

To find the area of the rectangle, the dimensions must have the same unit of length.

The units of area

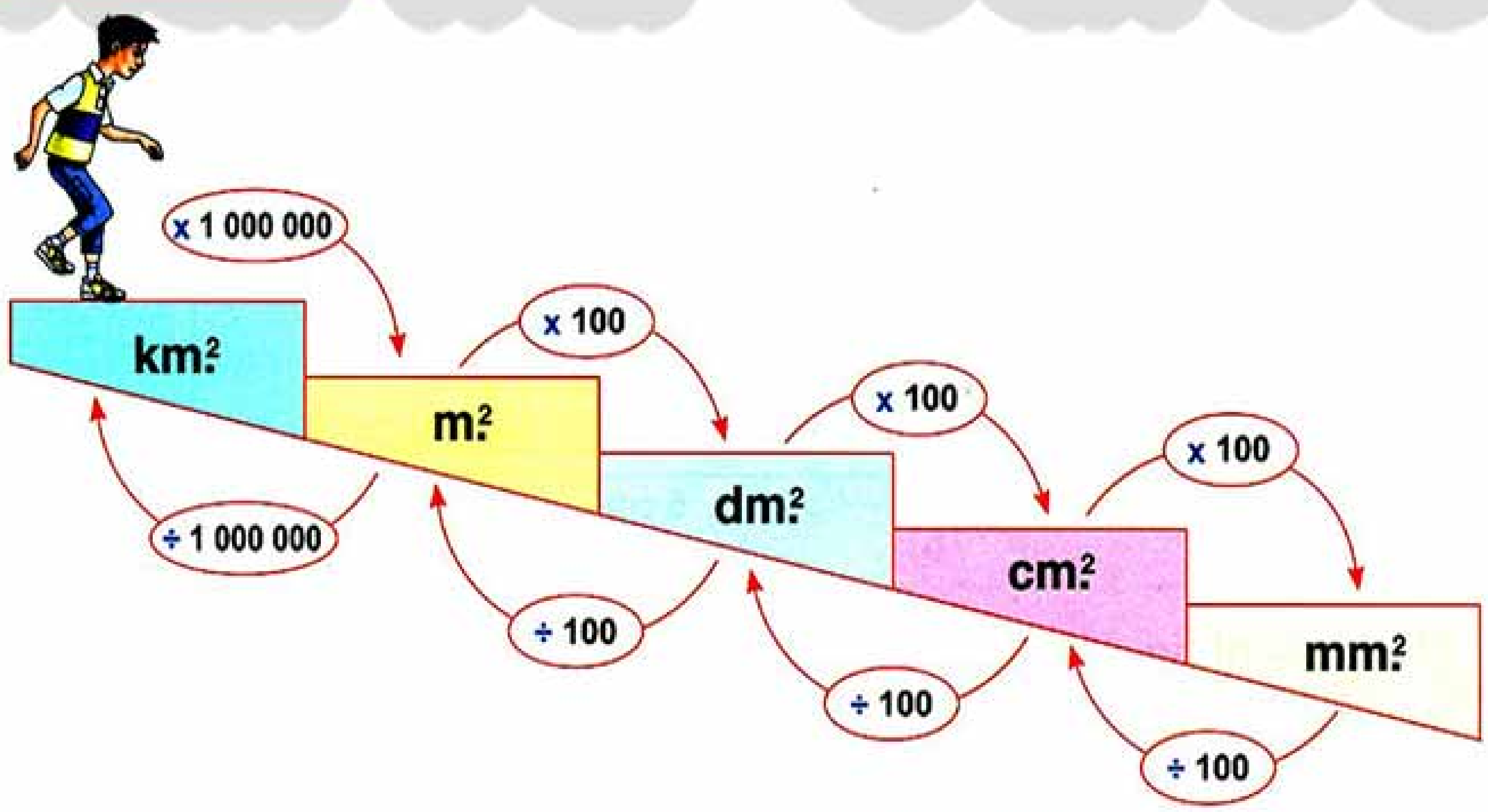
1 km^2 = 1 000 m. × 1 000 m. = 1 000 000 m^2

1 m^2 = 10 dm. × 10 dm. = 100 dm^2

1 m^2 = 100 cm. × 100 cm. = 10 000 cm^2

1 dm^2 = 10 cm. × 10 cm. = 100 cm^2

Notice that :



EXERCISE 18

Areas

📖 From the school book

1 Complete as in the example :

Example

$4\ km^2 = 4\ 000\ 000\ m^2$

a 📖 $3\ m^2 =$ .... dm^2

b $5\ m^2 =$ .... cm^2

c $8\ dm^2 =$ .... cm^2

d $7\ m^2 =$ .... $dm^2 =$ .... cm^2

e $600\ dm^2 =$ .... m^2

f 📖 $\frac{1}{2}\ km^2 =$ .... m^2

g $9\ km^2 =$ .... dm^2

h 📖 $2\ 700\ dm^2 =$ .... m^2

i $80\ 000\ cm^2 =$ .... m^2

j 📖 $90\ 000\ cm^2 =$ .... m^2

k 📖 $6\ 000\ 000\ m^2 =$ .... km^2

2 Choose the suitable unit of measurement for measuring the following between brackets as in the example :

Example

The area of your classroom (km^2 or (m^2) or cm^2)

a 📖 The area of the Eastern Desert. (km^2 or cm^2 or dm^2)

b The area of your photo. (m^2 or km^2 or cm^2)

c The area of the carpet in your room. (mm^2 or m^2 or km^2)

d 📖 The area of the playground of your school. (km^2 or cm^2 or m^2)

e The area of a page in your magazine. (cm^2 or km^2 or m^2)

Lesson 2

3 Choose the closest answer to the right between brackets as in the example :

Example

The area of Alexandria Governorate is ....
(50 m^2 or 2 800 dm^2 or (2 300 km^2))

a The area of the flat where I live is ....
(75 km^2 or 75 cm^2 or 75 m^2 or 75 dm^2)

b The area of your cupboard is .... (80 m^2 or 66 km^2 or 3 m^2)

c The area of the board in your class is .... (6 km^2 or 6 cm^2 or 6 m^2)

d A pupil in primary 4 used his geometric instruments to draw a rectangle whose area .... in his notebook (12 m^2 or 12 dm^2 or 12 cm^2)

e The area of the tile used in tilling our house is ....
(25 dm^2 or 25 cm^2 or 25 m^2)

4 Complete :

a The area of a square = side length × ....

b The area of a rectangle = ... × ....

c The length of a rectangle = $\frac{\text{The area}}{\text{..........}}$

d The area of a square whose side length is 5 cm. is ....

e The width of a rectangle whose area is 18 dm^2 and its length is 6 dm. is ....

f If the perimeter of a square = 24 cm. , then its area = ...

g The area of a rectangle whose dimensions are 13 cm. and 7 cm. is ....

h If the area of a square is 9 cm^2 , then its side length = ...

i The perimeter of the square whose area is 36 cm^2 = ...

j If the area of a square is 1 dm^2, then its side length = ... cm. and its perimeter = ... cm.

k If the area of a rectangle is 48 cm^2, and its width is 6 cm. , then its length = ... cm. and its perimeter = ... cm.

5 Put (✓) for the correct statement and (x) for the incorrect one (with correcting the incorrect ones) :

a The width of a rectangle = $\frac{\text{The perimeter}}{\text{The length}}$ ( )

b 📖 The area of a square = side length × 4 ( )

c 42 km^2 = 42 000 m^2 ( )

d 📖 The area of a rectangle whose length is 2 dm. and its width is 5 cm. is 100 cm^2 ( )

e If the perimeter of a square is 32 cm., then its area = 64 cm^2 ( )

f The area of the square of side length 20 cm. is greater than the area of the rectangle whose dimensions are 10 cm. and 30 cm. ( )

g The area of the rectangle whose length is twice its width and its width is 4 cm. equals 8 cm^2 ( )

h 📖 The square metre (m^2) is a unit of measurement used to measure the perimeters of figures. ( )

i The perimeter of the rectangle whose area is 12 cm^2 and its width is 3 cm. equals 14 cm. ( )

j 📖 The area of a squared-shape piece of land of side length 3 km. is 9 million m^2 ( )

6 Put [< , > or =] as in the example :

Example

- $\frac{1}{4}$ km^2 (>) 500 m^2
- 2 dm^2 (=) 200 cm^2

a 📖 81 dm^2 ◯ 6 400 cm^2

b 3 m^2 ◯ 500 dm^2

c 4 m² ◯ 400 cm²

d The area of a square of side length 30 cm. ◯ 9 dm²

e 📖 The area of a square of side length 8 cm. ◯ the area of a rectangle whose dimensions are 9 cm. and 8 cm.

7 Complete the following tables :

a

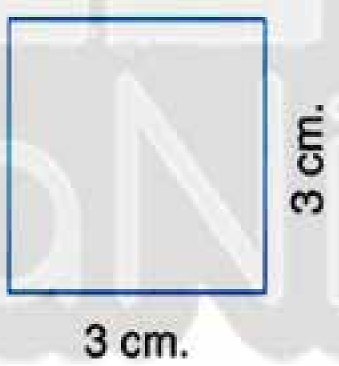
Side length of square	7 cm.	9 cm.	6 dm.	····· cm.	5 m.
Its area	49 cm²	····· cm²	····· dm²	100 cm²	····· cm²

b

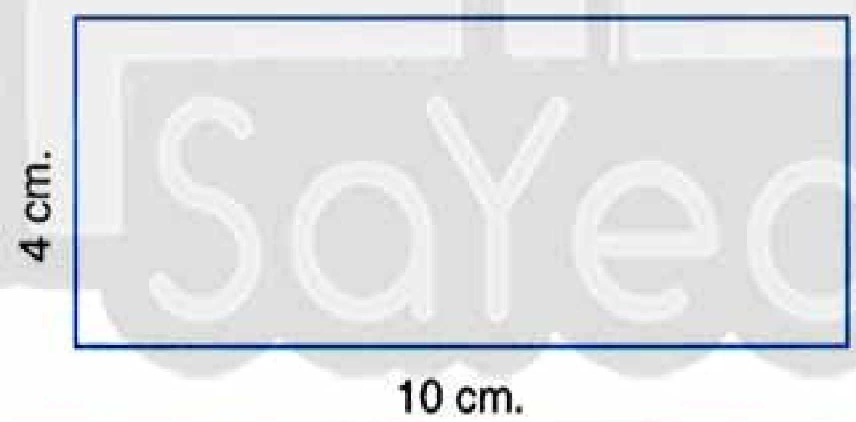
Length of rectangle	4 cm.	7 m.	60 dm.	····· cm.	3 dm.
Width of rectangle	3 cm.	5 m.	2 m.	6 cm.	····· cm.
Its area	12 cm²	····· m²	····· m²	48 cm²	6 dm²

8 Calculate the area of the following figures :

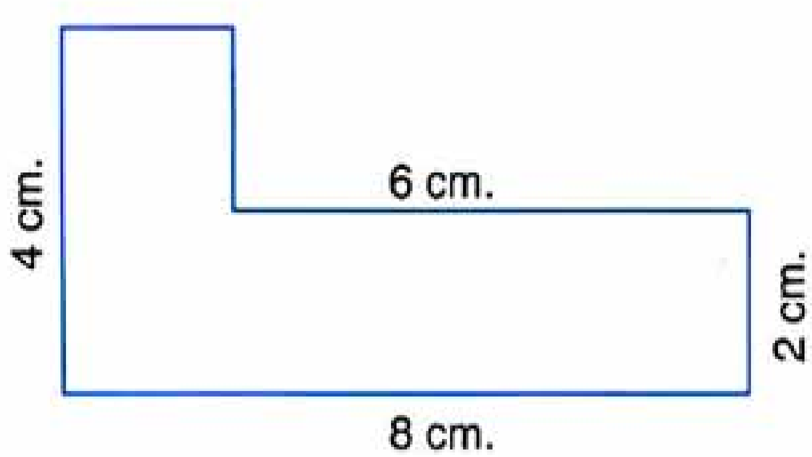
a



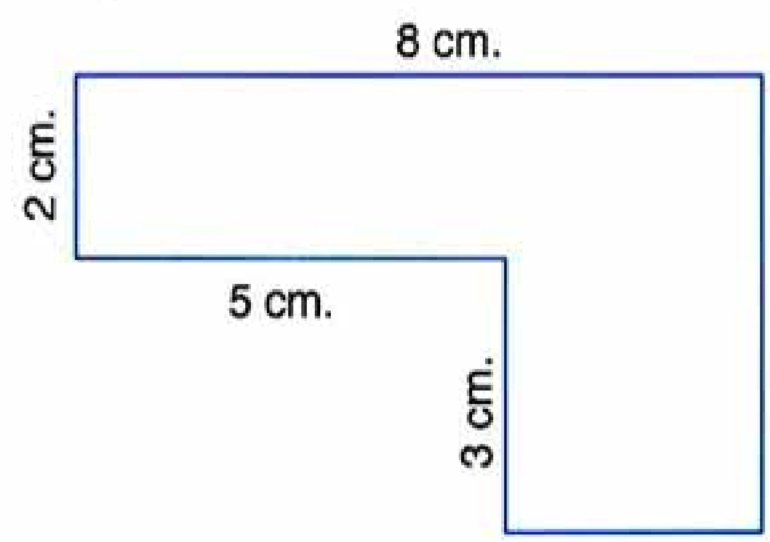
b



c

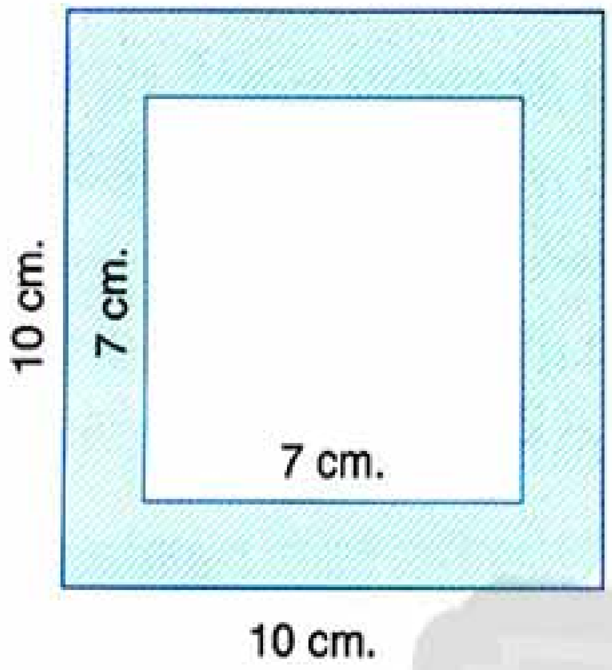


d

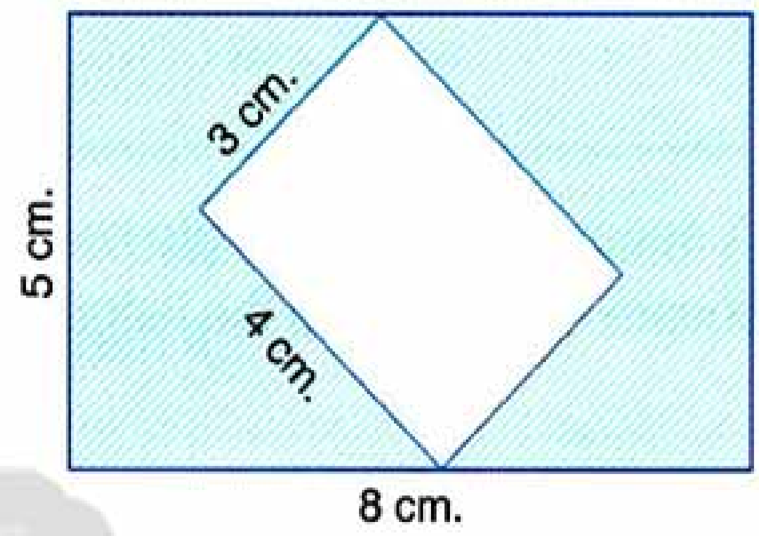


9 Calculate the area of the shaded parts in the following figures :

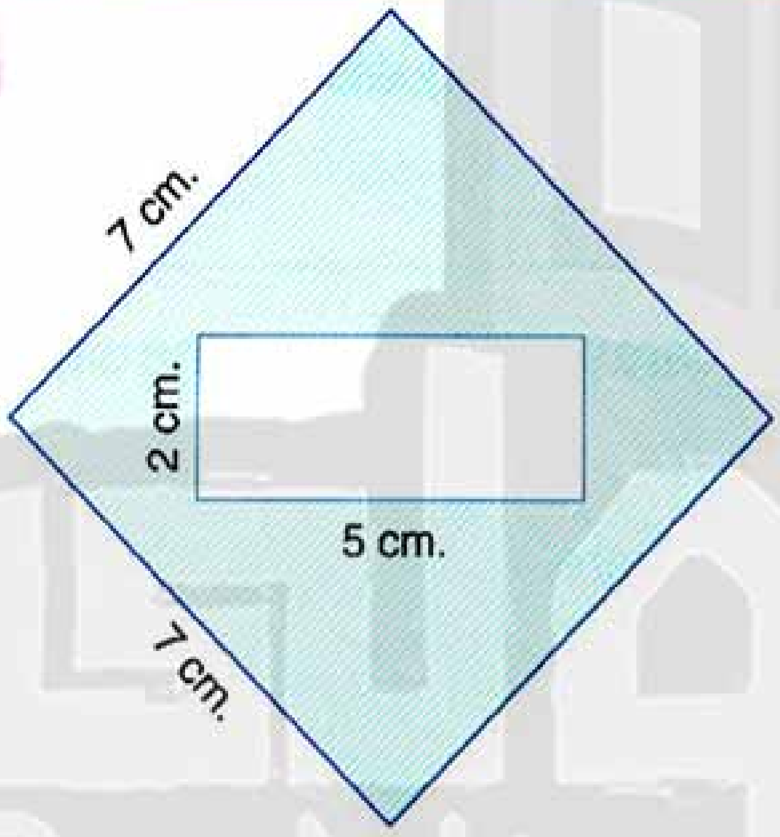
a



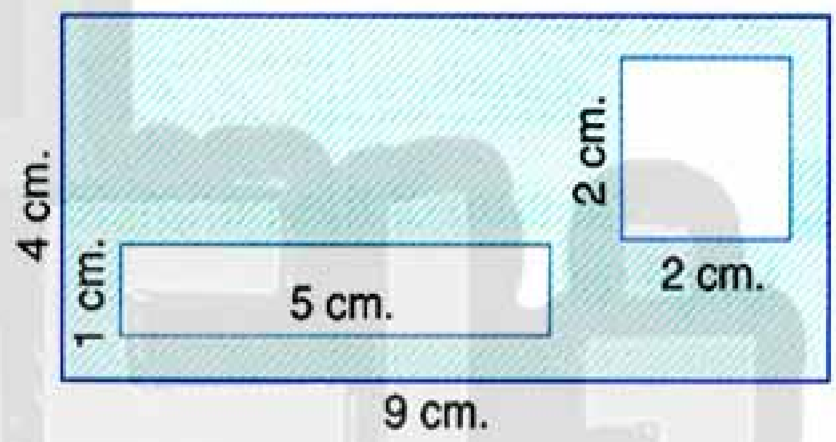
b



c



d



10 Calculate the area of :

a A square of side length 5 dm.

b A rectangle of dimensions 8 cm. and 5 dm.

c 📖 A square whose perimeter is 28 cm.

d 📖 A rectangle whose length is 20 cm. , and its perimeter is 64 cm.

e A rectangle whose length is 4 times its width , and its width equals 8 cm.

f A square whose perimeter is equal to the perimeter of a rectangle whose dimensions are 8 cm. and 1 dm.

11 A rectangular carpet of dimensions 6 m. and 4 m. is used to cover the floor of a squared room of side length 7 m. Find out the area of the uncovered floor of this room.



12 A square and a rectangle have the same area. If the side length of the square = 20 cm. and the length of the rectangle = 25 cm. , then find its width.

13 The sum of perimeters of a rectangle and a square is 120 cm. If the side length of the square is 10 cm. , then calculate the perimeter of the rectangle and its area if the width of the rectangle equals the side length of the square.

14 If the sum of the perimeters of two squares is 48 cm. and the side length of one of them is 7 cm.

Find : **a** the side length of the second square.

b the sum of their areas.

15 If we have a rectangular-shape hall whose dimensions are 8 metres and 6 metres, how many tiles are needed to tile this hall , given that the side length of the required squared-shape tiles is 20 cm. ?



16 We want to pave a rectangular floor of a sports hall of dimensions 20 m. and 10 m. If the cost of the square metre is L.E. 5 Calculate the cost of the paving.



Think and answer

1 The length of a rectangle is three times its width. If its perimeter is 40 cm. , find its area in cm.^{2}

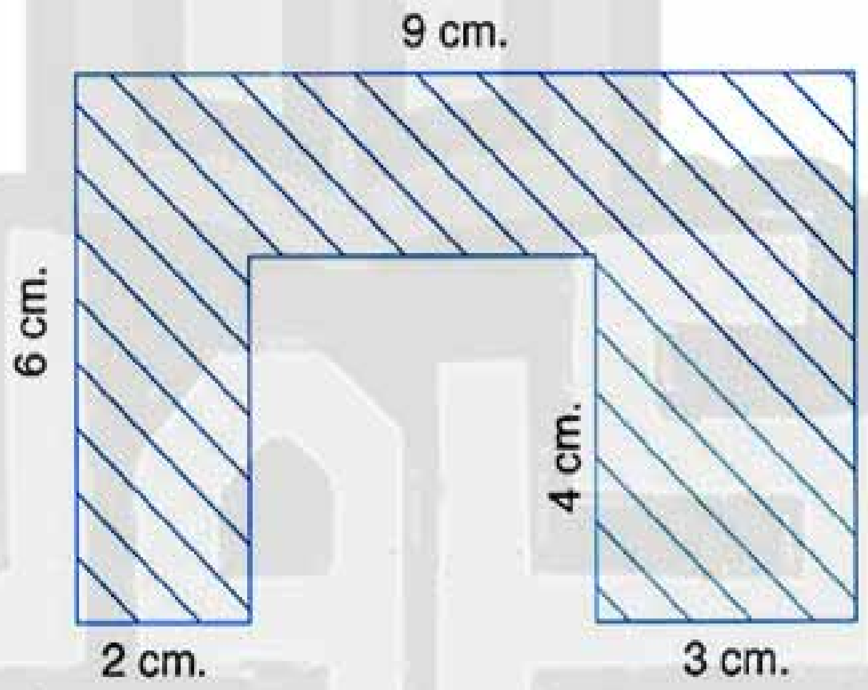
---

2 The drawn figure is a rectangle whose dimensions are 9 cm. and 6 cm. A square of side length 4 cm. is cut from it.

Calculate :

a The area of the remaining part by two different methods.

b The perimeter of the remaining part.

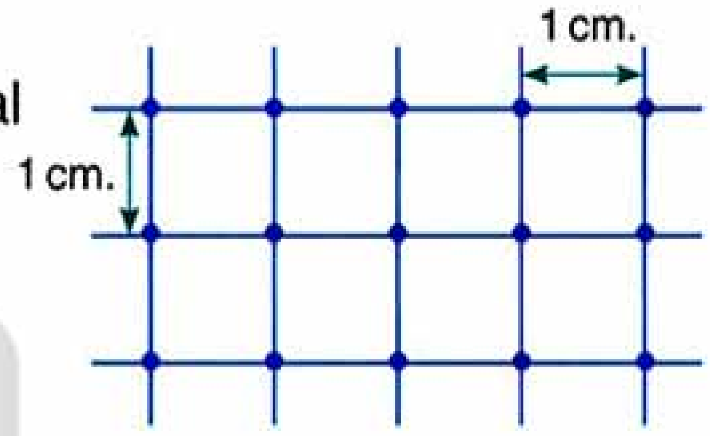




Activities from the school book

Activity 1

In the opposite figure, 15 dots are arranged in the form of a lattice such that the horizontal and vertical distances between every two adjacent dots, vertically or horizontally , are equal. Consider that the distance between every two adjacent points is 1 cm. , then answer the following questions :



a How many squares can be drawn such that the vertices of each coincide with these dots and its area equals :

(1) 1 cm^2 (2) 2 cm^2 (3) 4 cm^2

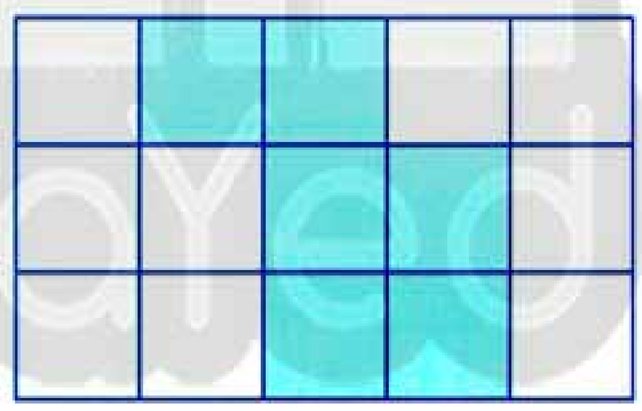
b How many rectangles can be drawn such that the vertices of each coincide with these dots and its perimeter equals :

(1) 6 cm. (2) 8 cm. (3) 10 cm.

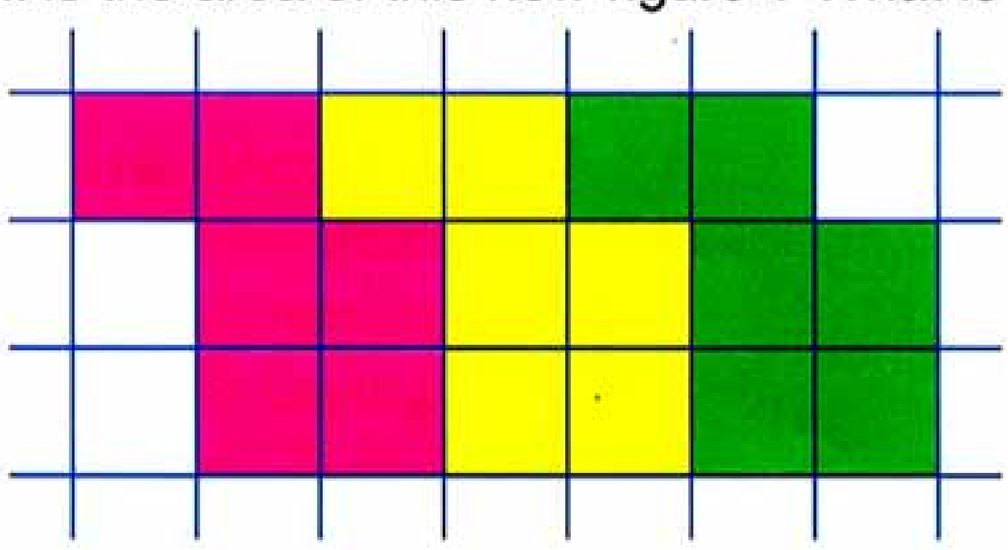
Activity 2

Notice and deduce

a Find the area of the coloured part and also its perimeter (consider that the side length of the small square is 1cm.).



b If the previous figure is drawn three times , you will get the figure below. What is the area of this new figure ? What is its perimeter ?



c If you imagine that we drew the original figure 20 times using the same previous way (on a larger paper) , what is the area of the resulted figure ? What is its perimeter ?



GENERAL EXERCISE

From the school book

Unit Four "Measurement"

1 Choose the correct answer :

a If the perimeter of an equilateral triangle is 12 cm. , then its side length is .... cm.

a. 3 b. 36 c. 4

b $3\frac{1}{2}$ km. = ... m.

a. 35 b. 3 500 c. 350

2 Put the suitable relation "< , = or >" :

a The area of a square of side length 6 .... the area of rectangle whose dimensions are 4 cm. and 6 cm.

b The perimeter of a square of side length 6 cm. .... the perimeter of an equilateral triangle of side length 7 cm.

c 800 dm^2 .... 8 m^2

d 3 meters , 5 centimeters .... 350 cm.

3 If the sum of two perimeters of two squares is 88 cm. and if the side length of one of the two squares is 12 cm. , then find :

a The side length of the other square.

b The difference between the areas of the two squares.

Lesson 2

4 Draw the square ABCD of side length 4 cm. , join its diagonals $\overline{AC}$ and $\overline{BD}$ to intersect at M , find the area of the square ABCD.

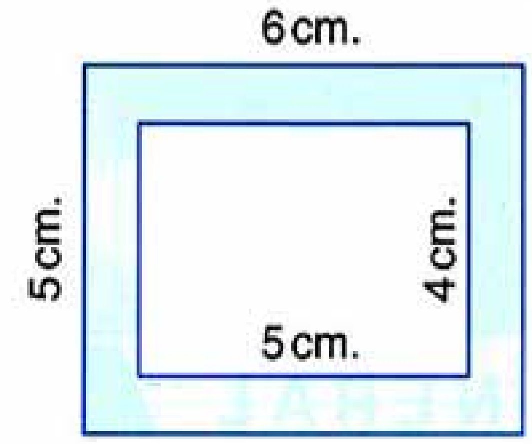
---

5 **The opposite figure :**

Shows a rectangle drawn inside another one.

a Find the area of the shaded part.

b Find the difference between the perimeters of the two rectangles.



WORKSHEETS



Sheet 1

On lesson 1 unit 1

Total mark 20

1 [a] ***Read the following numbers and write them in letters :*** (3)

(1) 764 921 ....

(2) 503 886 ....

(3) 981 012 ....

[b] ***Write the following numbers in digits :***

(1) Five hundred thirty-seven thousand , six hundred and nine. ....

(2) Eight hundred thousand and eighteen. ....

(3) Four hundred forty thousand , nine hundred and ninteen. ....

2 ***Complete each of the following :*** (4)

[a] 68 357 = 60 000 + ... + 300 + ... + ...

[b] 369 017 = ... + ... + 9 000 + ... + ...

[c] .... = 10 000 + 800 + 0 + 7

[d] .... = 500 000 + 40

3 ***Put (<) , (=) or (>) :*** (4)

[a] 618 501 ☐ 681 501

[b] 19 thousands ☐ 19 000

[c] 752 102 ☐ 75 thousand and 102

[d] 982 134 ☐ 982 thousand and 134

4 [a] ***From the following number cards , write the greatest and the smallest number that can be formed :*** (5)

6	2	5	9	8	1

(1) The greatest number is : ....

(2) The smallest number is : ....

[b] ***Arrange the following numbers in an ascending order :***

(1) 378 562 , 487 652 , 827 153 and 345 796

The order is : ....

(2) 212 112 , 121 122 , 221 112 and 112 212

The order is : ....

5 [a] ***Write the value of the circled digit in the following :***

(1) 51③ 749 ⟶ .... (2) ④97 668 ⟶ ....

(4)

[b] ***Write the place value of the digit 7 in the following :***

(1) 476 089 ⟶ .... (2) 680 754 ⟶ ....

Sheet 2

From lesson 1 unit 1 to lesson 2 unit 1

Total mark 20

1 ***Complete each of the following :*** (5)

[a] 235 million , 160 thousand and 478 = ...

[b] .... = 37 million , 215 thousand and 378

[c] 67 000 590 = ... millions + ... thousands + ... hundreds + ... tens + ... units

[d] .... = 3 millions + 10 thousands + seven hundreds + 5 tens + 8 units

[e] 342 million = ... thousands

2 ***Put (<) , (=) or (>) :*** (4)

[a] 8 954 507 ☐ 8 945 507

[b] 100 hundred thousand ☐ 10 millions

[c] 9 000 000 + 385 217 ☐ 9 385 271

[d] 5 millions ☐ 500 000

3 ***Write the value of the underlined digit according to its place in the number :*** (2)

[a] $\underline{8}$5 607 341 ⟶ ....

[b] $\underline{9}$65 743 842 ⟶ ....

[c] 4 $\underline{5}$92 678 ⟶ ....

[d] 976 8$\underline{5}$2 341 ⟶ ....

4 [a] ***Arrange in an ascending order :***

(4)

(1) 6 385 712 , 4 835 172 , 5 932 648 and 6 358 217

The order is : ....

(2) 92 543 699 , 19 876 542 , 90 518 764 and 92 458 700

The order is : ....

[b] ***Arrange in a descending order :***

(1) 31 710 420 , 70 500 280 , 69 480 009 and 4 987 531

The order is : ....

(2) 580 600 708 , 600 580 708 , 708 600 508 and 708 508 800

The order is : ....

5 ***Choose the correct answer :***

(5)

[a] 700 000 000 + 80 000 000 + 3 000 000 + 70 + 1 = ...

(783 071 000 ***or*** 783 710 000 ***or*** 783 000 071)

[b] The value of the digit 5 in the number 3 521 068 is ....

(5 000 000 ***or*** 500 000 ***or*** 50 000)

[c] Ten million is the smallest number formed from .... digits.

(7 ***or*** 8 ***or*** 10)

[d] Three million , three thousand and three is written as ....

(3 030 003 ***or*** 3 003 30 ***or*** 3 003 003)

[e] The digit that represents the million in the number 46 835 719 is ....

(4 ***or*** 8 ***or*** 6)

Sheet 3

From lesson 1 unit 1
to lesson 3 unit 1

Total mark (20)

1 ***Complete each of the following :***

(4)

[a] 8 532 674 109 = ... milliard + ... million + ... thousand + ...

[b] 31 512 924 760 = ... milliard + ... million + ... thousand + ...

[c] 6 000 210 000 = ... milliard + ... thousand

[d] 802 000 000 020 = ... milliard + ...

Worksheets

2 Write : (4)

[a] The value of the underlined digit :

(1) 1 151 515 151 ⟶ .... (2) 20 987 655 143 ⟶ ....

[b] The place value of the underlined digit :

(1) 35 987 643 201 ⟶ .... (2) 572 100 634 899 ⟶ ....

3 Put (<) , (=) or (>) : (4)

[a] 7 456 789 012 ☐ 8 milliards

[b] 60 hundred thousands ☐ 60 milliards

[c] 10 milliards ☐ 10 000 millions

[d] 93 163 058 472 ☐ 93 136 401 742

4 [a] Arrange the following numbers in an ascending order : (4)

7 521 439 528 , 7 125 943 528 , 7 milliards and 7 095 348 951

The order is : ....

[b] Write the following numbers in letters :

(1) 8 973 265 413 ....

(2) 25 706 485 980 ....

5 Join the two cards which express the same number : (4)

5 214 375 600	Five million, two hundred fourteen thousand, six hundred and seventy-five.
5 214 675	Five hundred twenty one million, four hundred thirty seven thousand, five hundred and sixty.
52 146 375	Five milliard, two hundred fourteen million, three hundred seventy five thousand and six hundred
521 437 560	Fifty two million, one hundred forty six thousand, three hundred and seventy-five.

Sheet 4

From lesson 1 unit 1 to lesson 4A unit 1

Total mark 20

1 Find the result of each of the following : (6)

[a]
```
  5 2 3 7 5 8 4
+ 3 1 4 9 0 3 6
---------------
...............
```

[b]
```
  8 7 6 0 3 2 7
− 5 1 4 7 1 5 4
---------------
...............
```

[c] 8 247 513 + 1 752 486 = ...

[d] 9 706 843 – 3 198 257 = ...

2 Complete : (5)

[a] 543 214 – .... = 271 599

[b] .... + 2 463 529 = 7 millions

[c] The place value of the circled digit in the number 5④ 375 219 is ....

[d] The smallest number formed from the digits 7 , 2 , 8 , 3 , 5 , 9 and 4 is ....

[e] The greatest 8-digit number is ....

3 In a year 1 576 024 tourists visited Cairo Tower and in the next year 2 159 817 tourists visited it. (2)

Find the total number of tourists in the two years.

4 Put (>) , (=) or (<) : (4)

[a] 132 045 ☐ 93 245

[b] 574 317 + 425 683 ☐ one million

[c] 437 786 ☐ 437 876

[d] One billion – 375 248 167 ☐ 7 hundred thousand

5 A factory produced 2 863 945 cans of soft drinks in a month and in the second month , the factory produced 3 694 273 cans. (3)

Find the difference between the production in the two months.

Sheet 5

From lesson 1 unit 1 to lesson 4B unit 1

Total mark 20

1 Find the product of each of the following : (5)

[a]
$$\begin{array}{r} 148 \\ \times \quad 6 \\ \hline \ldots\ldots \end{array}$$

[b]
$$\begin{array}{r} 2579 \\ \times \quad 3 \\ \hline \ldots\ldots \end{array}$$

[c]
$$\begin{array}{r} 753 \\ \times \quad 12 \\ \hline \ldots\ldots \end{array}$$

[d] 977 × 25 = ...

[e] 338 × 17 = ...

2 Choose the correct answer between brackets : (5)

[a] Two thousand × 53 = ...

(106 thousands **or** 53 thousands **or** 53 millions)

[b] 8 000 hundred thousands = ...

(8 milliards **or** 8 millions **or** 800 millions)

[c] The number seventy thousand , five hundred and ninety-four in digits is .... (700 594 **or** 70 594 **or** 750 094)

[d] The value of the digit 6 in the number 276 148 is ....

(6 000 **or** 600 000 **or** 60 000)

[e] The smallest 7-digit number is ....

(7 000 000 **or** one million **or** 9 999 999)

3 [a] Write the following numbers in letters : (4)

(1) 1 815 637 409

....

(2) 98 723 614

....

[b] Arrange the following numbers in a descending order :

3 521 764 , 994 318 , 5 764 849 and 2 millions

The order is : .... , ... , ... and ....

4 Join with the equal results : (4)

9 393 × 8	75 145
21 898 + 53 248	75 144
35 × 2 147	75 143
1 084 572 – 1 009 429	75 146

5 If 30 passengers travelled to Hurghada by air and the price of the ticket was L.E. 215 How much money did all the passengers pay ? (2)

Sheet 6

From lesson 1 unit 1 to lesson 12 unit 1

Total mark 20

1 Find the quotient of each of the following : (4)

[a] 1 792 ÷ 7 = ... [b] 5 112 ÷ 36 = ...

[c] 4 920 ÷ 8 = ... [d] 72 408 ÷ 42 = ...

2 Choose the correct answer between brackets : (5)

[a] 257 ÷ 50 = 5 and the remainder is .... (7 *or* 8 *or* 9)

[b] 4 004 ÷ 52 .... 6 × 13 (> *or* = *or* <)

[c] The place value of the digit 7 in the number 3 751 200 is ....
(millions *or* hundred thousands *or* ten thousands)

[d] The greatest 10-digit number is ....
(9 999 999 999 *or* ten milliard *or* 999 999 999)

[e] (521 764 + 739 648) – one million = ...
(1 261 412 *or* 361 412 *or* 261 412)

3 Put (✓) for the correct statement and (×) for the incorrect one and correct the incorrect one : (5)

[a] 225 ÷ 25 = 8 (   )

[b] 1 515 ÷ 14 = 108 , the remainder = 3 (   )

[c] If 56 × 23 = 1 288 , then 1 288 ÷ 23 = 56 (   )

[d] The smallest number formed from the digits
5 , 8 , 4 , 7 , 0 , 2 and 3 is 2 345 780 ( )

[e] 6 × 4 milliards < 40 × 1 000 000 ( )

4 A group of 328 tourists is divided into 8 buses.
Find the number of tourists that can each bus carry? (2)

5 [a] Find the number which if we multiply by 39 , the result will be 2 457 (4)
The number is ………………

[b] Find the number which if we divide by 43 , the quotient will be 117
The number is ………………

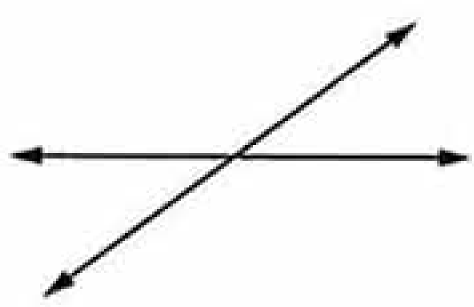
Sheet 7

From lesson 1 unit 1 to lesson 1 unit 2

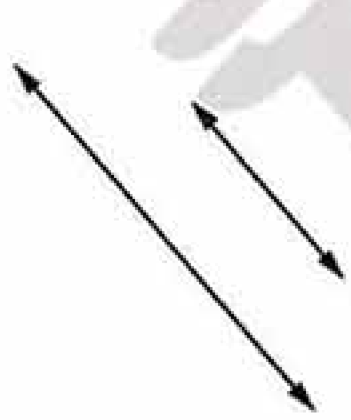
Total mark 20

1 ***Write "intersecting and not perpendicular , perpendicular or parallel" under each of the following figures :*** (3)

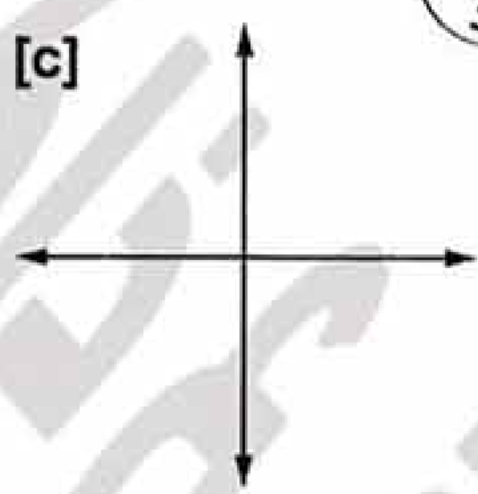
[a]



[b]



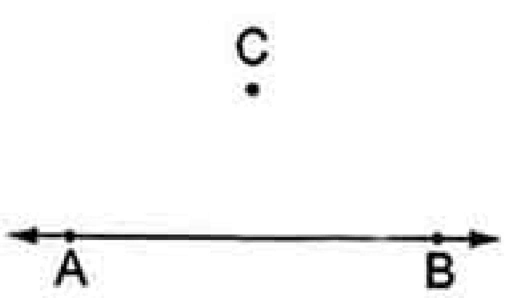
[c]



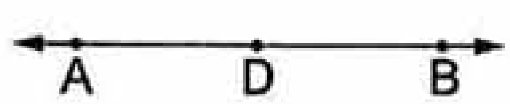
……………………… ……………………… ………………………

2 ***Draw a perpendicular to $\overleftrightarrow{AB}$ from the shown point in each of the following figures :*** (3)

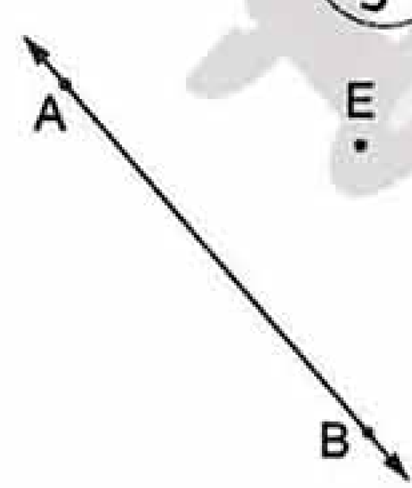
[a]



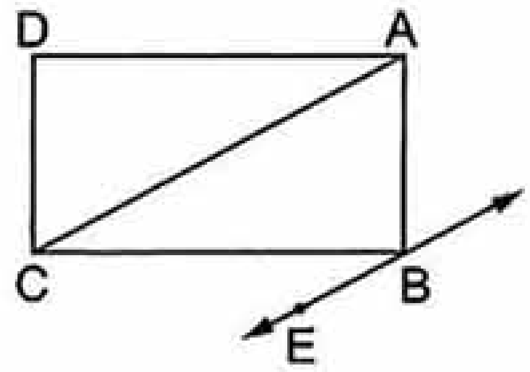
[b]



[c]



3 In the opposite figure , complete :



[a] The figure ABCD is called ....

[b] $\overleftrightarrow{AB}$ // ....

[c] $\overleftrightarrow{AB}$ ⊥ .... and ....

[d] $\overleftrightarrow{AC}$ // ....

[e] $\overleftrightarrow{AD}$ ⊥ .... and ....

7

4 Complete :

5

[a] The place value of the digit 7 in the number 375 214 is ....

[b] 3 543 218 + 5 738 512 = ...

[c] 970 146 – 175 558 = ...

[d] The number of right angles formed from the intersecting of two perpendicular lines are ....

[e] The two lines which can not intersect are called ....

5 In a school , if 756 pupils are distributed equally among 18 classes. Find the number of pupils in each class.

2

Sheet 8

From** lesson **1** unit **1** to lesson **2** unit **2

Total mark 20

1 Complete :

5

[a] In the square , the two diagonals are .... , ... and ....

[b] In the rectangle , all angles are .... angles.

[c] In the parallelogram , each two opposite sides are .... and ....

[d] The four sides are equal in length in .... and ....

[e] A quadrilateral that has only one pair of parallel sides is called ....

2 Put (✓) for the correct statment and (×) for the incorrect one "with correcting the incorrect one" :

5

[a] The greatest 7-digit number is 9 000 000 ( )

[b] The two perpendicular lines make 4 acute angles. ( )

[c] 256 × 38 = 9 728 ( )

[d] The number of sides of a pentagon is 7 ( )

[e] The number of diagonals of the rhombus is 2 ( )

[a] Draw the square ABCD with side length 4 cm.

[b] Ayman bought 98 metres of cloth for L.E. 45 per metre. Find the total cost price.

(4)

Draw the rectangle XYZL in which XY = 4 cm. and YZ = 3 cm. , then draw the two diagonals $\overline{XZ}$ and $\overline{YL}$, then complete :

(4)

[a] XZ = ... cm.

[b] YL = ... cm.

[c] $\overline{XY}$ // ....

[d] $\overline{YZ}$ ⊥ .... and ....

An aeroplane can carry 364 passengers per trip.
How many passengers can the aeroplane carry in 18 trips ?

(2)

Sheet 9

From lesson 1 unit 1 to lesson 3 unit 2

Total mark: 20

Complete :

(5)

[a] The triangle whose side lengths are 5 cm. , 6 cm. and 5 cm. is called .... triangle.

[b] 20° , 60° and 100° are the measures of angles of .... -angled triangle.

[c] The measure of each angle in the equilateral triangle is ....

[d] The sum of measures of the interior angles of a triangle equals ....

[e] In Δ ABC , if m (∠ A) = 50° and m (∠ B) = 40° , then the type of the triangle ABC according to the measures of its angles is .... triangle.

Put (✓) for the correct statement and (×) for the incorrect one "with correcting the incorrect one" :

(5)

[a] If ABC is a triangle in which m (∠ B) = 98° , then it is said to be a right-angled triangle. ( )

[b] If XYZ is a triangle in which m (∠ X) = 120° and m (∠ Y) = 45° , then m (∠ Z) = 15° ( )

[c] 534 ÷ 3 = 178 ( )

[d] 374 521 + 625 479 = one million. ( )

[e] The value of the circled digit in the number 8 2④7 635 is 400 000 ( )

3 Draw the triangle ABC in which AB = 3 cm. , BC = 4 cm. and m (∠ B) = 90° Measure the length of $\overline{AC}$, then calculate the perimeter of the triangle ABC (4)

4 Draw the triangle XYZ in which XY = 5 cm. and m (∠ X) = m (∠ Y) = 60° , then find : (4)

[a] m (∠ Z)

[b] The length of each of $\overline{YZ}$ and $\overline{ZX}$

[c] The type of the triangle according to its sides and its angles.

5 Hazem bought 26 books from the book fair , if the price of one book is P.T. 725 Find the money that Hazem paid. (2)

Sheet 10

From lesson 1 unit 1 to lesson 1 unit 3

Total mark 20

1 ***Underline between brackets the multiples of the desired number in each of the following :*** (4)

[a] 2 (8 , 7 , 5 , 10 , 11 , 4 , 9)

[b] 7 (4 , 14 , 70 , 8 , 21 , 7 , 6)

[c] 4 (5 , 8 , 10 , 0 , 14 , 16 , 6)

[d] 5 (10 , 14 , 2 , 5 , 15 , 30 , 4)

2 ***Complete :*** (5)

[a] The number .... is a multiple of all numbers.

[b] The number 24 is a multiple of 3 because : .... = ... × ....

[c] If 44 = 11 × .... , then the number 44 is a multiple for the number .... and also a multiple of the number ....

[d] One million is the smallest number formed from .... digits

[e] 7 millions = ... ten thousands.

3 [a] Write the multiples of 6 which lying between 20 and 50 (4)

[b] Draw the square ABCD in which AB = 3 cm.

4 ***Put (>) , (=) or (<) :*** (4)

[a] 3 795 146 ☐ 3 785 164 [b] 2 000 × 6 ☐ 120 thousands.

[c] 78 ÷ 6 ☐ 117 ÷ 9 [d] 241 376 + 758 624 ☐ one billion.

5 Marwan bought a car for L.E. 24 960 He paid L.E. 12 000 in cash and the rest was divided into 24 equal monthly instalments. Find the value of each instalment. (3)

Sheet 11

From lesson 1 unit 1 to lesson 2 unit 3

Total mark 20

1 ***Use the numbers 816 , 720 , 4 955 and 1 239 to complete :*** (3)

[a] The numbers divisible by 2 are ....

[b] The numbers divisible by 3 are ....

[c] The numbers divisible by 5 are ....

2 ***Complete :*** (5)

[a] 9 million , 215 thousand and eight = ...

[b] The value of the digit 5 in the number 156 861 432 is ....

[c] 704 × 1 000 = ... × 10

[d] .... – 2 315 604 = 4 164 293

[e] In the isosceles triangle there are .... equal sides in length.

3 ***Put (✓) for the correct statement and (×) for the incorrect one :*** (5)

[a] The measure of each angle in the square is 60° ( )

[b] 30 is divisible by 6 because 6 × 5 = 30 ( )

[c] The number 4 003 is divisible by 3 ( )

[d] The two diagonals of the parallelogram are parallel. ( )

[e] All even numbers are divisible by 2 ( )

4 In his birthday , Khaled bought 7 boxes of soft drinks for P.T. 5 880 How much did each box cost ? (3)

5 Draw the triangle ABC in which AB = 3 cm. , AC = 6 cm. and m (∠ A) = 60° Find : (4)

[a] m (∠ C) (By measuring)

[b] The type of the triangle ABC according to its angles measures once and to its side lengths another.

Sheet 12

From lesson 1 unit 1
to lesson 3A unit 3

Total mark 20

1 ***Put (✓) for the correct statement and (×) for the incorrect one :*** (5)

[a] The number 7 has two factors only. ( )

[b] 6 is a factor of the number 63 ( )

[c] The factors of the number 18 are 2 , 3 , 6 , 9 and 18 only. ( )

[d] The number 11 has two factors only. ( )

[e] 0 is a factor of all numbers. ( )

2 ***Complete :*** (5)

[a] The factors of the number 14 are ....

[b] The number 20 has .... factors only.

[c] The number .... has 1 factor only.

[d] The factors of the number 21 are ....

[e] The number .... is a factor of all numbers.

3 ***Choose the correct answer :*** (5)

[a] The value of the digit 5 in the number 456 789 is ....
(50 000 *or* 5 000 *or* 500)

[b] The number .... is divisible by 3 (128 *or* 13 *or* 24)

[c] 100° , 50° and 30° are the measures of .... -angled triangle.
(an acute *or* a right *or* an obtuse)

[d] The number of sides of the pentagon = ...
(4 *or* 5 *or* 6)

[e] If 79 × 18 = 1 422 , then 1 422 ÷ 18 = ...
(79 *or* 18 *or* 36)

4 Draw the square XYZL with side length 5 cm. and draw the two diagonals $\overline{XZ}$ and $\overline{LY}$ (3)

5 A fruitseller bought a box of apples weighing 24 kg.
If the price of the box was 120 pounds , find the price of one kg. (2)

Sheet 13

From lesson 1 unit 1 to lesson 3B unit 3

Total mark 20

1 [a] ***Underline the prime numbers of the following :*** (3)

5 , 2 , 21 , 23 , 9 , 1 , 43 and 33

[b] ***Factorize each of the following numbers to its prime factors :***

(1) 27 (2) 64 (3) 84

2 ***Complete :*** (5)

[a] The smallest prime number is ....

[b] The prime number has only .... factors.

[c] The prime factors of the number 18 are ....

[d] The smallest number whose prime factors are 2 , 3 , 5 and 7 is ....

[e] .... is the only even prime number.

3 ***Choose the correct answer between brackets :*** (5)

[a] The prime number between 6 and 10 is .... (7 *or* 8 *or* 9)

[b] The number of factors of 4 is .... (4 *or* 1 *or* 3)

[c] 7 050 ÷ 75 = ... (92 *or* 93 *or* 94)

[d] 2 064 is not divisible by .... (2 *or* 3 *or* 5)

[e] The numbers 2 , 3 , 5 and 7 are called .... numbers. (odd *or* prime *or* even)

4 ***Find the result of each of the following :*** (4)

[a] 6 122 017 + 121 345 = ... [b] 876 × 35 = ...

[c] One million – 213 984 = ... [d] 6 642 ÷ 54 = ...

5 [a] Draw the triangle LMN in which m (∠ M) = 30° , m (∠ N) = 50° and MN = 6 cm. Find : (3)

(1) m (∠ L)

(2) The type of the triangle LMN according to the measures of its angles.

[b] Nada bought 25 metres of cloth , the price of one metre is P.T. 475

How much money did Nada pay ?

Sheet 14

From lesson 1 unit 1 to lesson 4 unit 3

Total mark 20

1 Complete : (5)

[a] The H.C.F. of 18 and 27 is ....

[b] The H.C.F. of 12 , 42 and 60 is ....

[c] The H.C.F. of 35 and 20 is ....

[d] .... is a common factor for all numbers.

[e] The prime factors of 45 are ....

2 Choose the correct answer between brackets : (5)

[a] The H.C.F. of 7 and 56 is .... (1 *or* 7 *or* 56)

[b] The H.C.F. of 60 , 30 and 45 is .... (5 *or* 10 *or* 15)

[c] 231 is divisible by .... (2 *or* 3 *or* 5)

[d] The two diagonals of the parallelogram are ....

(bisecting each other *or* equal in length *or* orthogonal)

[e] The triangle whose side lengths are 6 cm., 3 cm. and 6 cm. is called ....

(a scalene *or* an equilateral *or* an isosceles)

3 (3)

[a] Write the prime numbers that lying between 2 and 30

[b] List the prime factors of 60

[c] Factorize 84 to its prime factors.

4 Find the result of each of the following : (4)

[a] 541 923 + 672 340 = ...

[b] 584 753 – 293 895 = ...

[c] 675 × 9 = ...

[d] 3 445 ÷ 65 = ...

5 (3)

[a] Find the H.C.F. of the numbers 18 , 30 and 42

[b] If the price of 26 metres of cloth is L.E. 286

Find the price of 18 metres.

Sheet 15

From lesson 1 unit 1 to lesson 5 unit 3

Total mark 20

1 Find the H.C.F. and the L.C.M. of each of the following : (4)

[a] 12 and 14
[b] 18 and 20
[c] 28 and 42
[d] 8 , 12 and 24

2 Put (✓) for the correct statement and (×) for the incorrect one : (5)

[a] The L.C.M. of 6 and 15 is 24 ( )
[b] The L.C.M. of 4 , 8 and 14 is 56 ( )
[c] The smallest odd prime number is 1 ( )
[d] 5 280 is divisible by 2 and 5 but not divisible by 3 ( )
[e] All sides of the rhombus are equal in length. ( )

3 Complete : (5)

[a] The place value of the digit 2 in the number 2 813 594 is ....
[b] 543 572 – 412 379 = ...
[c] 7 105 ÷ .... = 35
[d] The three sides are equal in length in the .... triangle.
[e] The two diagonals are equal in length in .... and ....

4 [a] Put (<) , (=) or (>) : (4)

(1) 245 ÷ 7 ☐ 3 × 13
(2) 5 000 + 3 000 ☐ 800 tens
(3) The number of sides in any polygon ☐ the number of digonals in the same polygon.

[b] A theatre has 45 rows. Each row consists of 12 seats. How many seats are there in the theatre ?

5 Draw the rectangle ABCD with dimensions 4 cm. and 3 cm. , then draw the two diagonals of the rectangle $\overline{AC}$ and $\overline{BD}$, then complete : (2)

[a] AC = ... = ... cm.
[b] The perimeter of the rectangle ABCD = ... = ... cm.

Sheet 16

From lesson 1 unit 1
to lesson 1 unit 4

Total mark 20

1 Complete : (5)

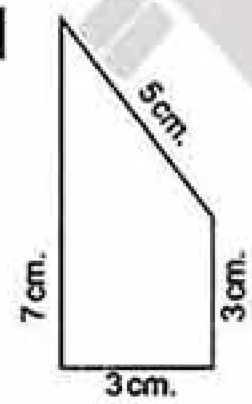
[a] 9 km. = ... m. [b] 3 m. = ... dm. = ... cm.

[c] 70 dm. = ... m.

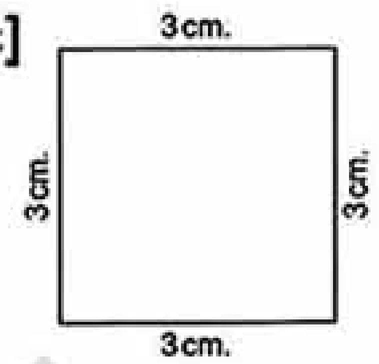
[d] The perimeter of the square = ... × ....

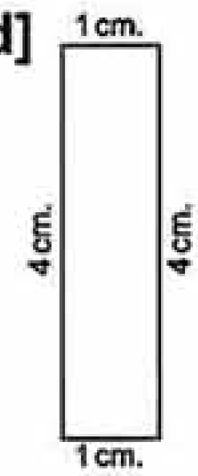
[e] The perimeter of the rectangle with dimensions 5 cm. and 7 cm. = ... cm.

2 *Calculate the perimeter of each of the following figures :* (4)

[a] 

[b] 

[c] 

[d] 

3 [a] ***Which is greater ?*** (3)

The perimeter of a rectangle of length 7 cm. and width 4 cm.

or the perimeter of a square of side length 5 cm.

[b] ***Arrange the following numbers in an ascending order :***

7 547 213 , 8 millions , 6 729 514 and 7 901 235

The order is : .... , ... , ... and ....

4 *Put (✓) for the correct statement and (×) for the incorrect one :* (5)

[a] The side length of a square = $\frac{\text{its perimeter}}{4}$ ( )

[b] 3 m. and 5 cm. = 350 cm. ( )

[c] The number 17 is a prime number. ( )

[d] The number 990 is divisible by 5 ( )

[e] The sum of the measures of the interior angles of a triangle is 108° ( )

5 [a] ***Find the result of each of the following :*** (3)

(1) 521 × 68 = ... (2) 875 216 + 653 294 = ...

(3) 27 945 ÷ 9 = ... (4) 7 625 136 – 4 588 677 = ...

[b] Find the L.C.M. of 28 and 35

Sheet 17

From lesson 1 unit 1 to lesson 2 unit 4

Total mark 20

1 Complete : (4)

[a] 9 km^2 = ... m^2

[b] 3 m^2 = ... dm^2 = ... cm^2

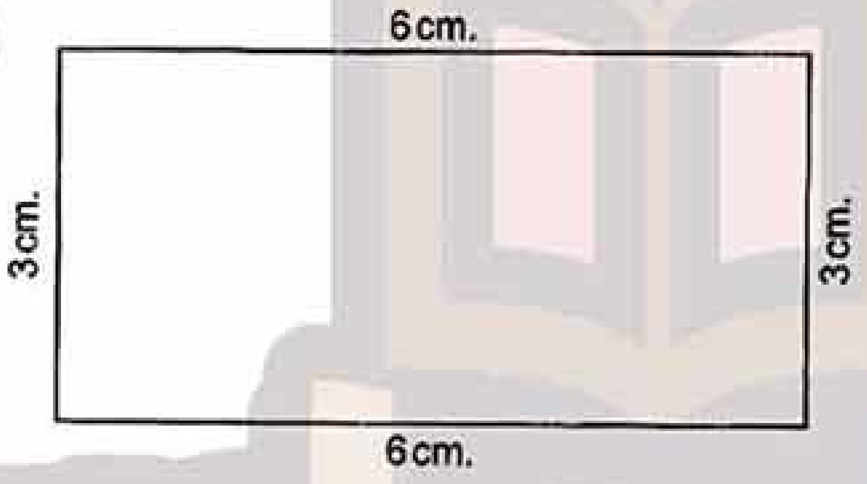
[c] The area of the square = ... × ....

[d] The area of the rectangle = ... × ....

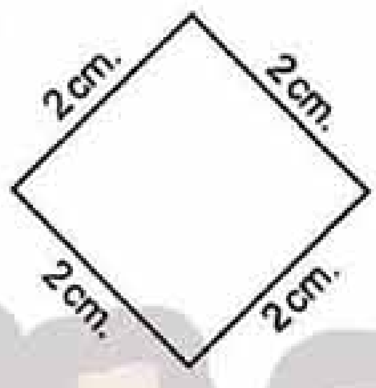
[e] In the rectangle , each two opposite sides are .... in length.

2 [a] *Calculate the area of each of the following figures :* (4)

(1)



(2)



[b] ***Find the perimeter and the area of each of the following :***

(1) A square with side length 5 cm.

(2) A rectangle with length 8 cm. and width 4 cm.

3 Complete : (5)

[a] 4 million , 87 thousand and 135 = ...

[b] The place value of the digit 5 in the number 5 326 179 is .... and in the number 4 958 732 is ....

[c] The factors of the number 35 are ....

[d] 123 × 15 = ...

[e] The prime number between 5 and 10 is ....

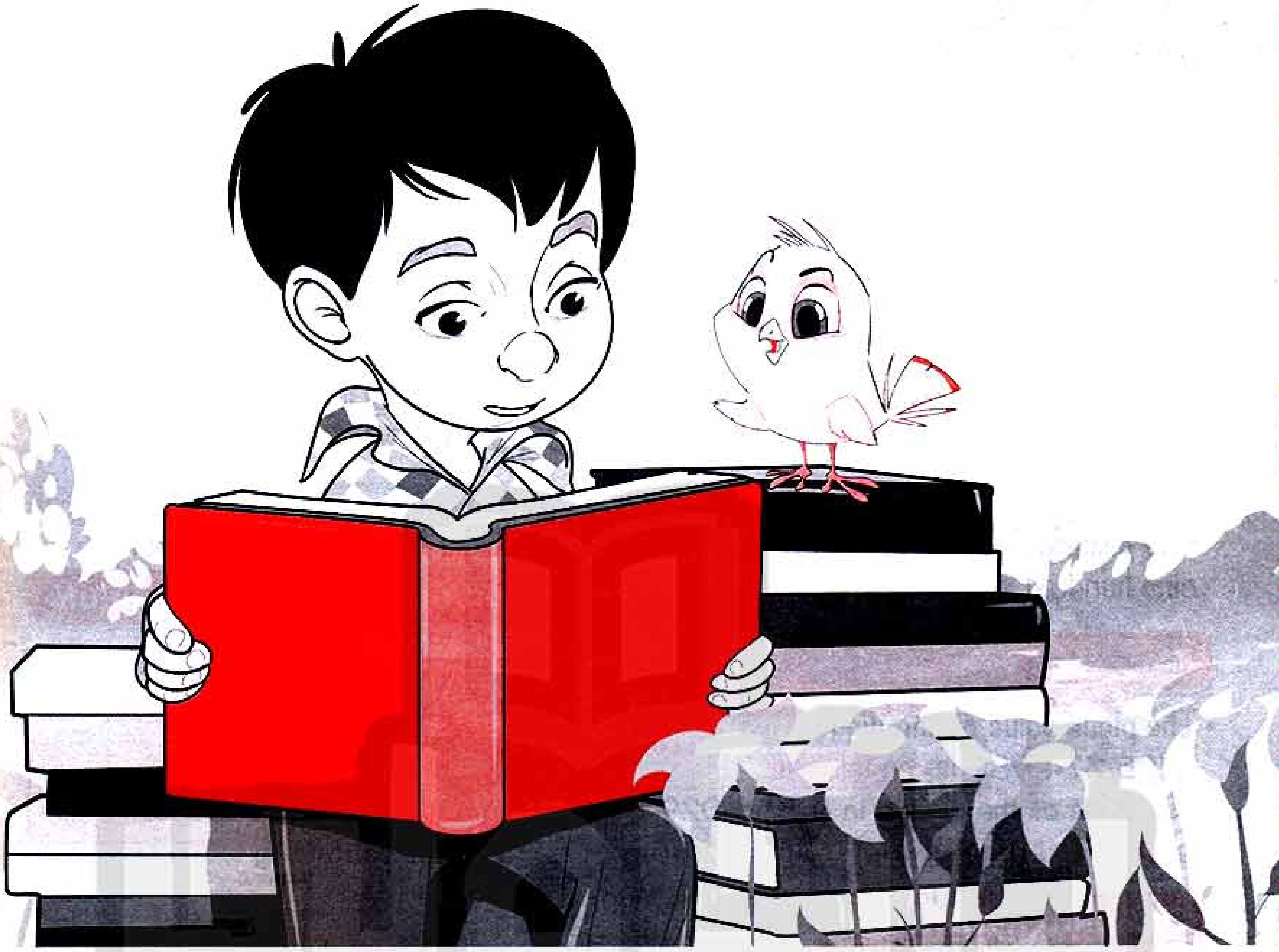
4 [a] Draw the square XYZL with side length 4 cm. , then calculate its perimeter and its area. (4)

[b] A hotel contains 192 rooms divided equally by a number of floors , each floor has 16 rooms. How many floors are there in this hotel ?

5 [a] *Find the result :* (2)

(1) 547 654 – 423 529 = ... (2) 645 ÷ 15 = ...

[b] Find the H.C.F. and the L.C.M. of 12 and 18



SUMMARY
OF THE FIRST TERM

Summary of Unit One

Reading and writing large numbers

You can read and write the number 5 723 860 941 as :

- **Expanded form :**

5 000 000 000 + 700 000 000 + 20 000 000 + 3 000 000 + 800 000 + 60 000 + 900 + 40 + 1

- **Word form :**

Five milliard , seven hundred twenty-three million , eight hundred sixty thousand , nine hundred and forty-one.

The place value and the value

- The place value of the digit 2 in 125 374 980 is ten millions
- The value of the digit 8 in 4 856 029 is 800 000

Notice that

- 350 000 = 350 thousands = 3 500 hundreds.

Comparing numbers

- To compare two numbers , the number which has more digits is greater than the other. (573 621 > 98 154)

573 621 → 6 digits, 98 154 → 5 digits

But if the two numbers have the same number of digits , we will compare the corresponding digits in the same place value from the left. (87**5** 147 > 87**2** 963)

875 147 → 6 digits, 872 963 → 6 digits

Ascending

- Ascending order is ordering the numbers from the smallest number to the greatest number.

For example :

2 567 421 , 2 819 880 , 3 781 577 and 3 781 608 are in an ascending order

Descending

- Descending order is ordering the numbers from the greatest number to the smallest number.

For example :

876 135 , 533 409 , 528 146 and 98 057 are in a descending order

Adding and subtracting large numbers

Addition

```
  ①①   ①
  523 748
+ 148 603
---------
  672 351
```

Subtraction

```
  ④⑫   ⑦⑯
  5 284 861
- 2 913 790
-----------
  2 371 071
```

Multiplying a whole number by another

Multiplying by a 1-digit number

```
  ①
  5734
 x   2
------
 11468
```

Multiplying by a 2-digit number

```
     358
 x    46
--------
   2 148
+ 14 320
--------
  16 468
```

Dividing a whole number by another

16614 ÷ 39 = 426

16614 → Dividend; 39 → Divisor; 426 → Quotient

```
        426
    ------
 39 | 16614
     -156
     ----
       101
     -  78
     ----
       234
     - 234
     ----
       000   ← Remainder
```

$39 \times 1 = 39$

$39 \times ② = 78$ ← 101

$39 \times 3 = 117$

$39 \times ④ = 156$ ← 166

$39 \times 5 = 195$

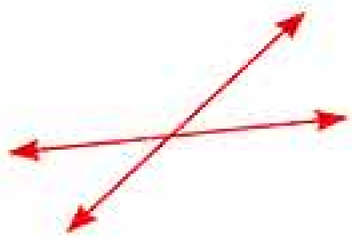
$39 \times ⑥ = 234$

Summary of Unit Two

Lines

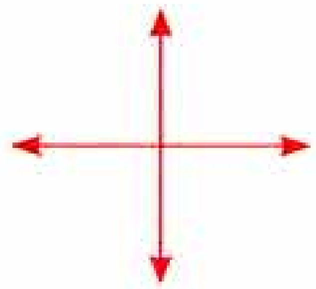
Relations between two straight lines

Intersecting



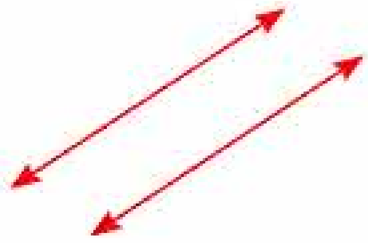
- Two lines intersect at one point.

Perpendicular



- Two lines intersect at one point and form ④ right angles.

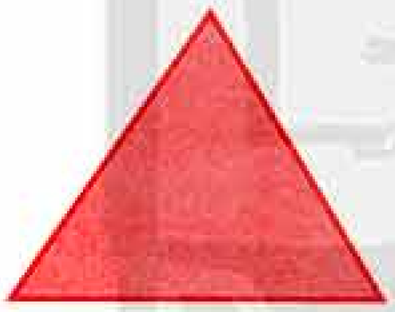
Parallel



- Two lines never intersect at any point.

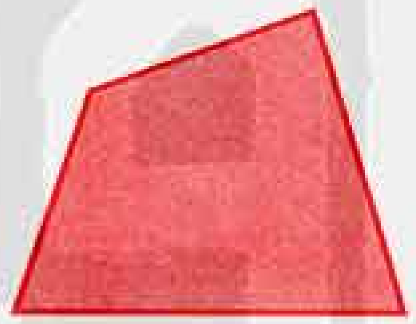
Polygons

Triangle



3 sides, angles, vertices

Quadrilateral



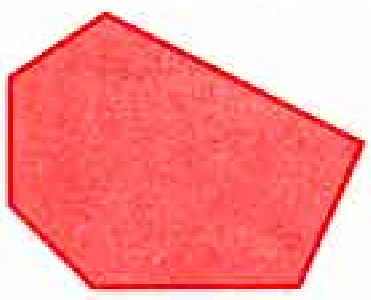
4 sides, angles, vertices

Pentagon



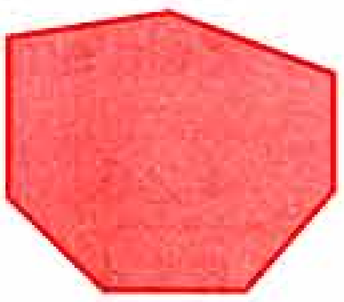
5 sides, angles, vertices

Hexagon



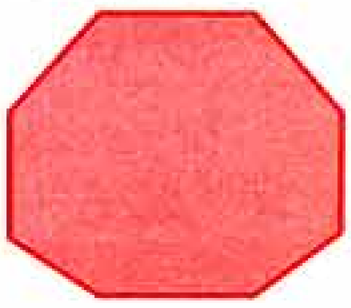
6 sides, angles, vertices

Heptagon



7 sides, angles, vertices

Octagon



8 sides, angles, vertices

From the previous figures , notice that :

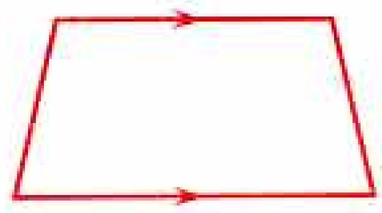
In any polygon :

The number of **sides** = The number of **vertices** = The number of **angles**

Some quadrilateral shapes

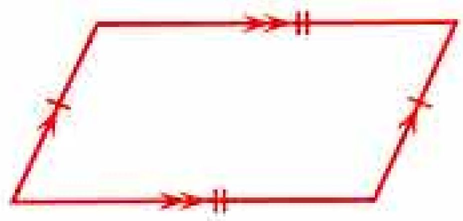
Trapezium

- Only two opposite sides are parallel and not equal in length

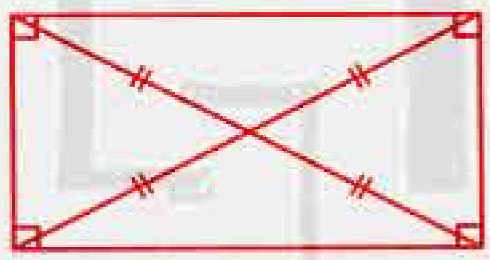


Parallelogram

- Each two opposite sides are parallel and equal in length.
- Two diagonals bisect each other.

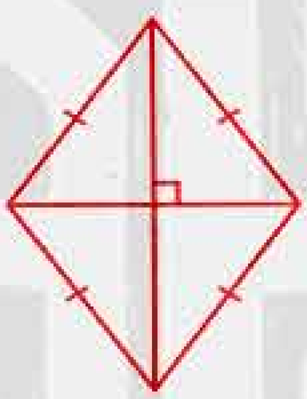


Rectangle



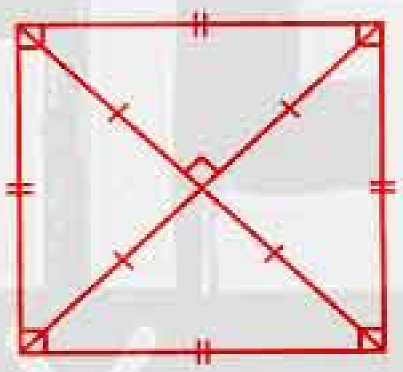
- Two diagonals are equal in length.
- All angles are equal in measure (90°)

Rhombus



- Two diagonals are perpendicular.
- All sides are equal in length.

Square

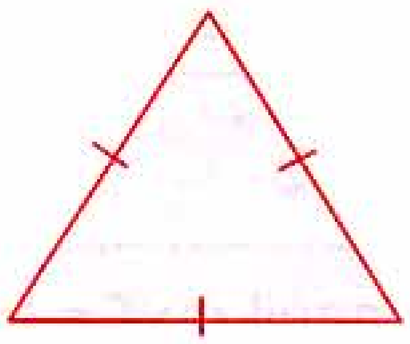


- Two diagonals are equal in length and perpendicular.
- All angles are equal in measure (90°)
- All sides are equal in length.

The triangle

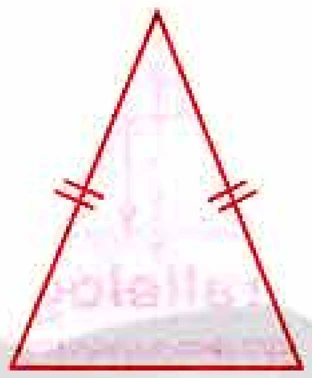
Types of triangles according to the lengths of its sides

1. Equilateral triangle



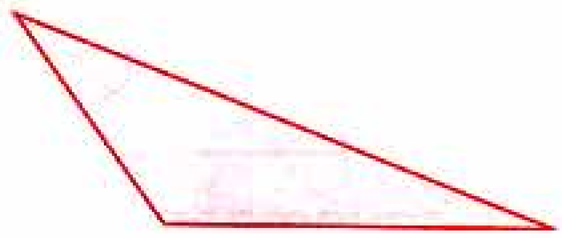
- Its three sides are equal in length.
- Its three angles are equal in measure (60°)

2. Isosceles triangle



- Two of its sides are equal in length.

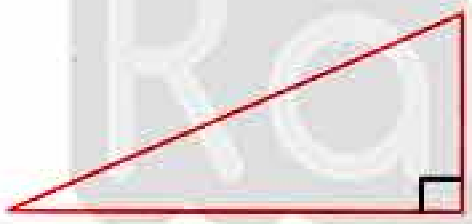
3. Scalene triangle



- Its three sides are different in length.

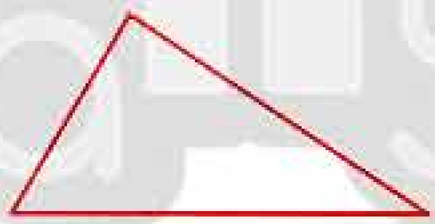
Types of triangles according to the measures of its angles

1. Right-angled triangle



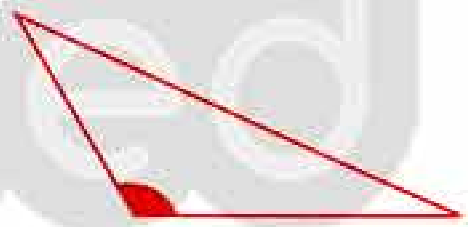
- One of its angles is a right angle.
- Each of the two other angles is an acute angle.

2. Acute-angled triangle



- Each of its three angles is an acute angle.

3. Obtuse-angled triangle



- One of its angles is an obtuse angle.
- Each of the two other angles is an acute angle.

- The sum of measures of the interior angles of any triangle = 180°
- Any triangle has at least two acute angles.

Summary of Unit Three

Multiple

- The result of multiplying a whole number by a number is called a multiple of this number.

For example :

Multiples of 6 : 0 , 6 , 12 , 18 , 24 , ...

Divisibility

- Any number is divisible by another if the remainder of the division is zero.

For example :

24 is divisible by 8 , but 27 is not divisible by 8 because when dividing 27 ÷ 8 we obtain 3 a quotient and 3 as a remainder.

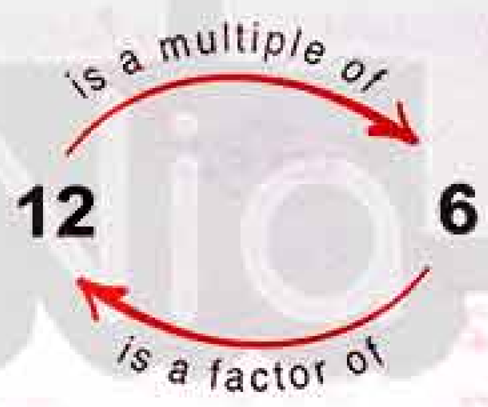
So , 24 is a multiple of (divisible by) 8

Factors

Factors of 12 are 1 , 2 , 3 , 4 , 6 and 12

12
1 × 12
2 × 6
3 × 4

Notice that



Prime numbers

- The whole number that has only 2 different factors which are 1 and itself is called a prime number.

For example :

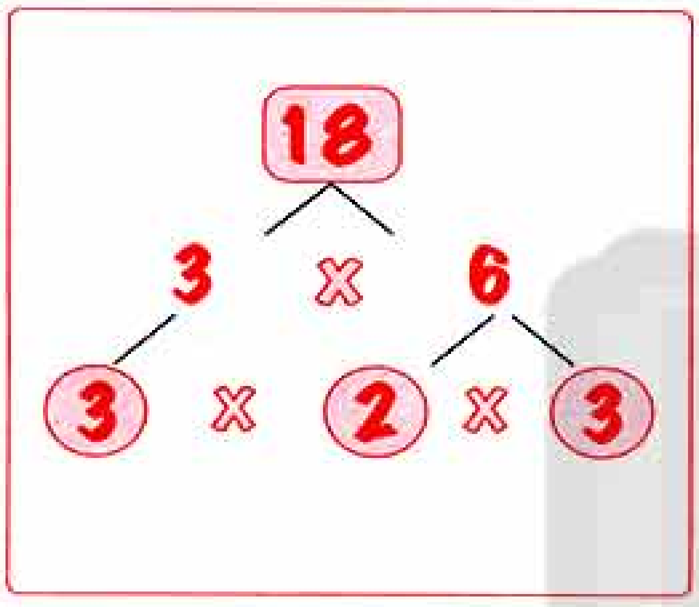
2 , 3 , 5 , 7 , 11 , 13 , 17 , ... are prime numbers.

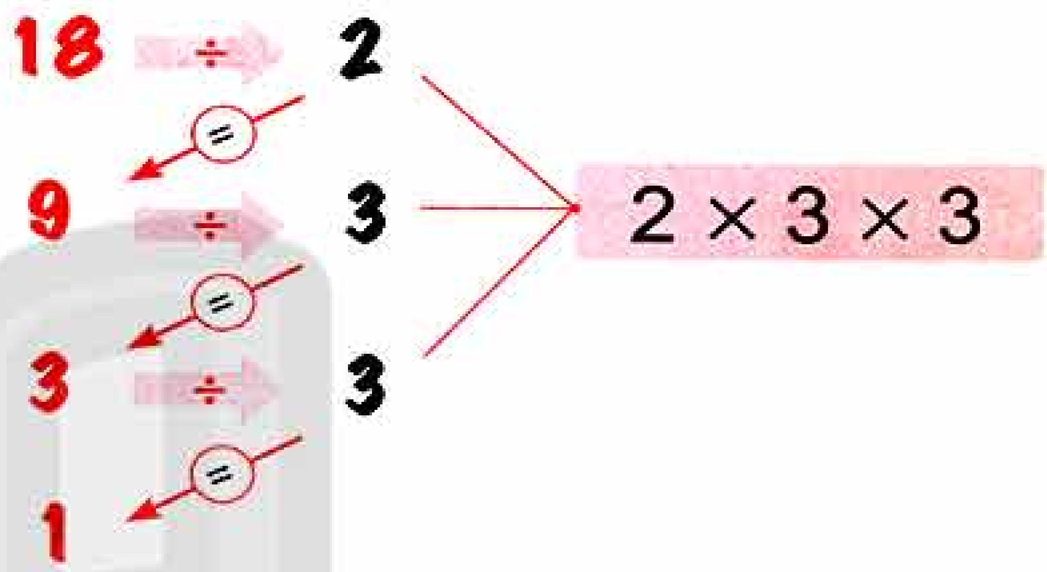
2 → The smallest prime number and the only even prime number

Notice that

- 1 is the common factor of all numbers.
- 0 is the common multiple of all numbers.

Factorization





$18 = 2 \times 3 \times 3$

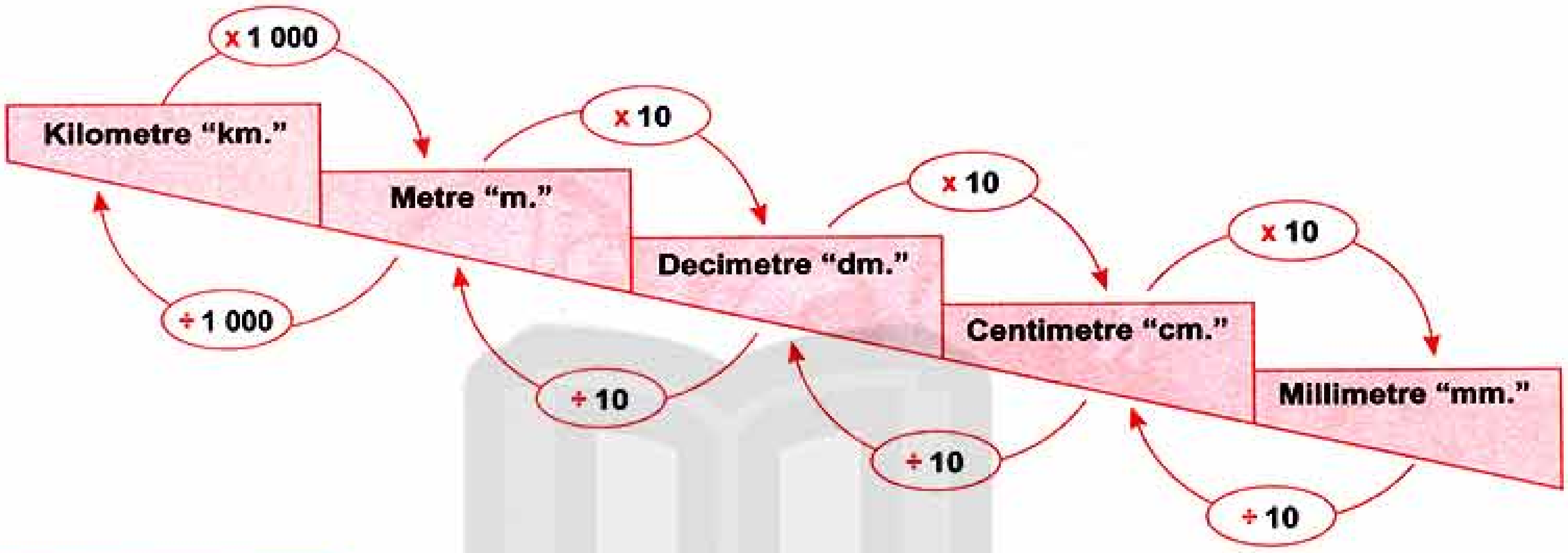
Highest common factor (H.C.F.) and lowest common multiple (L.C.M.) of two numbers

For example :

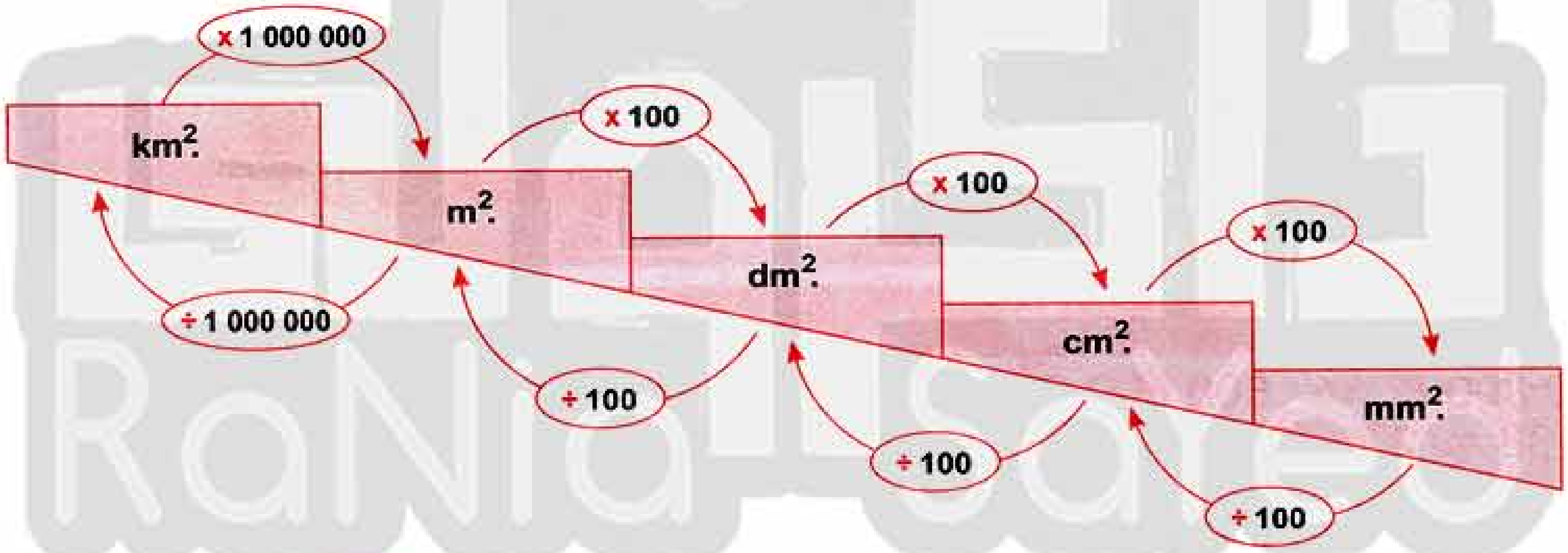
24	=	2	×	2	×	2	×	3				
36	=	2	×	2			×	3	×	3		
H.C.F.	=	2	×	2			×	3			=	**12**
L.C.M.	=	2	×	2	×	2	×	3	×	3	=	**72**

Summary of Unit Four

Units of length



Units of area



Perimeter and area

Square	Rectangle
• Perimeter = side length × 4	• Perimeter = (length + width) × 2
• Area = side length × side length	• Area = length × width

FINAL EXAMINATIONS



- Model Examinations of the School Book
  (3 models + 1 model examination for the special needs students)
- 25 Schools' Examinations from Different Governorates 2019

Model Examinations of the School Book

Model 1

Answer the following questions :

1 *Choose the correct answer :*

(1) $\frac{1}{4}$ million pound = ... pounds

(2 500 **or** 25 000 **or** 250 000 **or** 500 000)

(2) The value of the digit 7 in the number 27 351 is ....

(7 **or** 70 **or** 7 000 **or** 70 000)

(3) Milliard is the smallest number that formed from .... digits.

(7 **or** 8 **or** 9 **or** 10)

(4) 505 .... 606 (> **or** < **or** =)

(5) The H.C.F. for the two numbers 2 and 4 is .... (2 **or** 4 **or** 6 **or** 8)

(6) The L.C.M. for the two numbers 3 and 6 is ....

(3 **or** 6 **or** 9 **or** 18)

(7) The number .... is divisible by 2 , 3 and 5

(6 **or** 10 **or** 15 **or** 30)

(8) Three million , three thousand and three = ...

(3 030 003 **or** 303 003 **or** 3 003 003 **or** 3 003 300)

(9) The smallest prime number is .... (zero **or** 1 **or** 2 **or** 3)

(10) One million and one hundred thousand 1 000 100

(> **or** < **or** =)

(11) The sum of the measures of the interior angles of a triangle = ...°

(90 **or** 120 **or** 180 **or** 360)

(12) The two diagonals are equal in length in each of ....

(the square and the rhombus **or** the square and the rectangle **or** the rectangle and the parallelogram)

(13) The perimeter of a square of side length 4 cm. .... the perimeter of a rectangle whose dimensions are 5 cm. and 3 cm. (> **or** < **or** =)

(14) 99 999 + 1 = ...

(99 990 **or** 999 900 **or** 100 000 **or** 1 000 000)

2 Complete :

(15) The number whose prime factors are 2 , 5 and 7 is ....

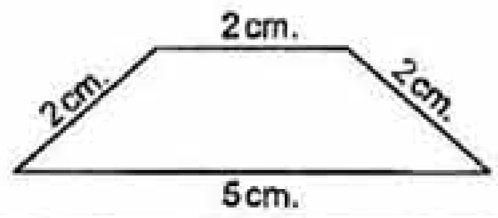
(16) $50 \times 600 =$ ....

(17) $3 \text{ m}^2 =$ .... dm^2

(18) If the perimeter of a square is 36 cm. , then its side length is .... cm.

(19) The rectangle whose dimensions are 8 cm. and 3 cm. , then its area = ... cm^2

(20) The perimeter of the opposite figure = ... cm.



3 Answer the following :

(21) 450 000 + 462 000 = ...

(22) 39 057 – 14 583 = ...

(23) $25 \times 7 \times 4 =$ ....

(24) $9\,045 \div 45 =$ ....

(25) Calculate the H.C.F. for the two numbers 24 and 40

....

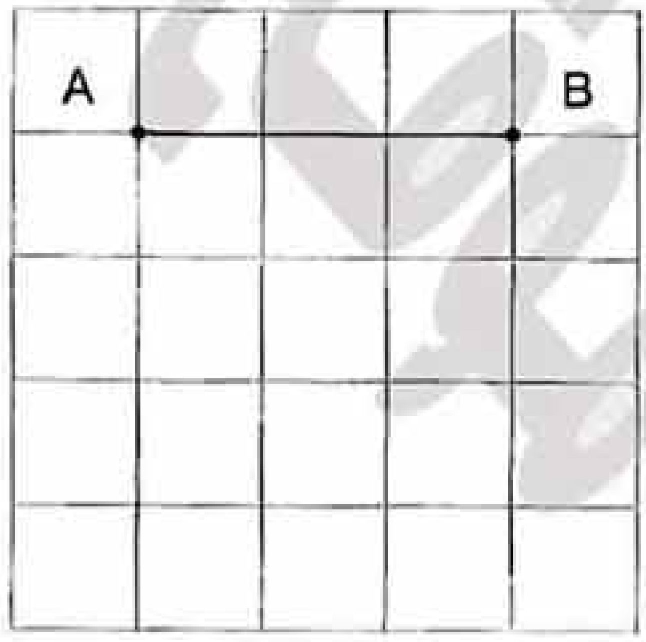
....

(26) ABC is a triangle in which m (∠ A) = 50° and m (∠ B) = 100°
Calculate m (∠ C)

....

....

(27) Complete the drawing of the square ABCD
(Consider the length unit is 1 cm.)
, then complete the following :



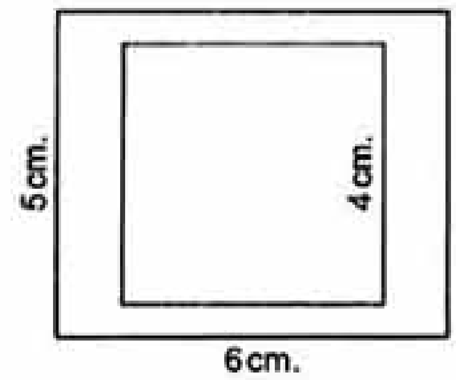
[a] $\overline{AB}$ // ....

[b] $\overline{AB}$ ⊥ ....

(28) A hotel contains 180 rooms divided equally among a number of floors , each floor contains 15 rooms , how many floors are there in this hotel ?
The number of floors = ... = ...

(29) Draw the triangle ABC in which AB = 5 cm. , m (∠ A) = 40° and m (∠ B) = 50°
Calculate m (∠ C) , then determine the type of the triangle according to the measures of its angles.

(30) The opposite figure represents a rectangle whose dimensions are 6 cm. and 5 cm. with a square of side length 4 cm. inside it.
Find the area of the the shaded part.



....

....

....

Model 2

Answer the following questions :

1 ***Choose the correct answer :***

(1) $\frac{1}{4}$ million pound is written in digits as .... pounds.
(250 *or* 2 500 *or* 25 000 *or* 250 000)

(2) The place value of the digit 3 in the number 736 542 is ....
(thousands *or* ten thousands *or* hundred thousands *or* millions)

(3) The perimeter of a square is 32 cm. , then its area = ... cm.^{2}
(8 *or* 16 *or* 40 *or* 64)

(4) The prime number just comes after the following number 17 directly is ....
(18 *or* 19 *or* 20 *or* 23)

(5) 660 ÷ 5 .... 660 ÷ 4
(< *or* = *or* >)

(6) If the sides of a parallelogram are equal in length , then it is ....
(trapezium *or* rectangle *or* square *or* rhombus)

(7) The number 12 is the L.C.M. for 3 and ....

(4 *or* 9 *or* 15 *or* 36)

(8) The triangle whose lengths of its sides are 6 cm. , 4 cm. and 6 cm. is .... (scalene *or* isosceles *or* equilateral)

(9) 71 million , 425 thousand and 12 is written as ....

(71 124 350 *or* 71 425 012 *or* 71 043 512 *or* 71 435 120)

(10) The nearest number of the result of : 7 815 100 + 1 475 987 is ....

(9 million *or* milliard *or* 900 thousand *or* 990 million)

(11) The sum of the measures of the interior angles of a triangle is ....°

(90 *or* 120 *or* 180 *or* 100)

(12) The number .... is divisible by 2 and 3

(10 *or* 14 *or* 18 *or* 21)

(13) 25 × 7 × 4 = ... (53 *or* 70 *or* 179 *or* 700)

(14) The H.C.F. for the 8 and 12 is .... (4 *or* 8 *or* 24 *or* 96)

2 Complete :

(15) The quadrilateral in which only two sides are parallel is called ....

(16) 15 dm. = ... cm.

(17) 2 565 178 – one million = ...

(18) 24 180 ÷ 60 = ...

(19) 90 000 cm^2 = ... m^2

(20) .... is the common multiple for all the numbers.

3 Answer the following :

(21) 9 045 ÷ 45 = ...

(22) 35 859 + 7 936 = ...

(23) 90 000 – 74 856 = ...

(24) 235 × 25 = ...

(25) (400 ÷ 4) × 999 = ...

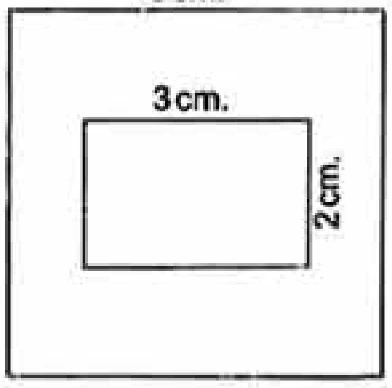
(26) 70 × 20 = 14 × ....

(27) Reda bought a P.C for L.E. 3 500 , he paid 500 pounds in cash , then he paid the rest in 25 equal instalments , find the value of each instalment.

....

....

(28) ***In the opposite figure :***
Find the area of the shaded part , the outer shape is square of side length 5 cm. and the inner shape is a rectangle of dimensions 3 cm. and 2 cm.



....

....

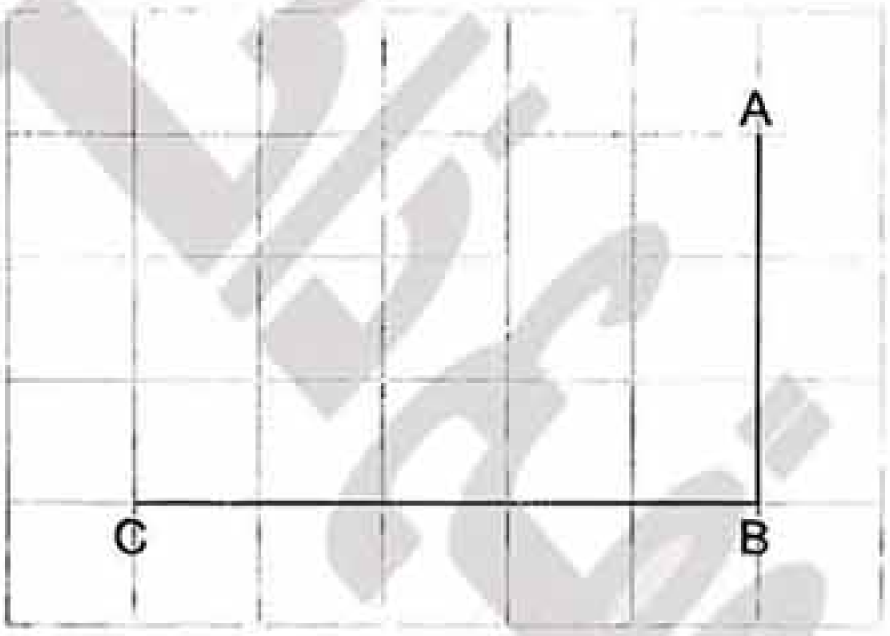
....

(29) Draw Δ XYZ in which XY = 5 cm. , m (∠ X) = m (∠ Y) = 45°

[a] Calculate m ∠ Z (without measuring).

[b] What is the type of Δ XYZ according to the measures of its angles ?

(30) Complete the drawing of the rectangle ABCD , then complete the following (consider the length unit is 1 cm.)



[a] $\overline{AB}$ // ....

[b] The perimeter of the rectangle ABCD = ...
= .... cm.

Model 3

Answer the following questions :

1 ***Choose the correct answer :***

(1) 150 thousands = ...
(150 tens *or* 15 thousands *or* 1 500 hundreds *or* 1 500 000)

(2) The digit which represents million in the number 78 201 654 is ....
(2 *or* 6 *or* 8 *or* 7)

(3) The number which its prime factors are 2 , 2 and 3 .... the number which its prime factors are 2 , 3 and 3 **(< *or* > *or* =)**

(4) The measure of any angle of the square = ...°

(30 *or* 60 *or* 45 *or* 90)

(5) The smallest prime number is .... **(zero *or* 1 *or* 2 *or* 3)**

(6) If the perimeter of an equilateral triangle = 12 cm. , then the length of its side = ... cm. **(3 *or* 4 *or* 5 *or* 6)**

(7) 6 254 117 = 254 117 + ...

(6 000 *or* 60 000 *or* 600 000 *or* 6 000 000)

(8) The diagonals of a rhombus are ....

(equal in length and not perpendicular ***or*** perpendicular but not equal in length ***or*** equal in length and perpendicular)

(9) The nearest number to the result of : (3 910 051 + 5 200 402) is ....

(9 thousand ***or*** 900 thousand ***or*** 9 million ***or*** milliard)

(10) The place value of the digit 3 in the number 736 542 is ....

(thousands ***or*** ten thousands ***or*** hundred thousands)

(11) 54 is divisible by .... **(4 *or* 6 *or* 7 *or* 8)**

(12) The lowest common multiple for the numbers 8 and 16 is ....

(8 *or* 16 *or* 32 *or* 24)

(13) 7 070 ÷ 35 = ... **(11 *or* 22 *or* 220 *or* 202)**

(14) 652 × 4 ☐ 652 × 5 **(< *or* > *or* =)**

(15) The side length of a square of area 36 cm^2 .... the side length of a square of perimeter 20 cm. **(< *or* > *or* =)**

2 *Complete :*

(16) 32 million , 8 thousand and 15 is written in digits as ....

(17) $3\frac{1}{2}$ km. = ... m.

(18) The factors of 50 are ....

(19) The sum of the measures of the interior angles of a triangle = ...°

(20) 72 hours = ... days.

3 *Answer the following :*

(21) 62 491 + 251 542 = ……………

(22) 93 642 – 32 161 = ……………

(23) 9 450 ÷ 45 = ……………

(24) 8 × 765 × 125 = ……………

(25) 236 × 24 = ……………

(26) H.C.F. for the two numbers 8 and 16 = ……………

(27) Arrange the following numbers in an ascending order :

861 542 , 681 542 , 156 842 , 865 421 and 685 421

The order is : …………… , …………… , …………… , …………… and ……………

(28) Draw Δ ABC in which AB = 7 cm. ,
m (∠ A) = 45° and m (∠ B) = 75°

[a] Find : m (∠ C)

[b] Write the type of the triangle according to the measures of its angles. (……………)

(29) *In the opposite figure :*

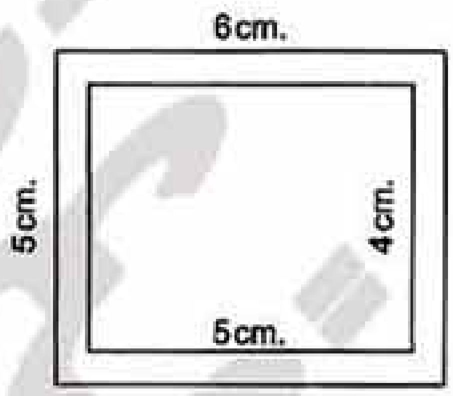
Find the area of the shaded part.

……………………………………………………………

……………………………………………………………

……………………………………………………………

……………………………………………………………



(30) In a certain year , the profit of one shop was L.E. 7 316 , if the profit is distributed equally among 31 workers. Find the share of each worker.

……………………………………………………………………………………………

……………………………………………………………………………………………

Model examination for the special needs students

Answer the following questions :

1 Choose the correct answer :

(1) $\frac{1}{2}$ of a day = ... hours (4 *or* 6 *or* 12)

(2) 3 million , 57 thousand and 9 is written as ....

(357 009 *or* 3 057 009 *or* 3 579)

(3) The H.C.F. for the two numbers 4 and 2 is .... (2 *or* 4 *or* 8)

(4) The L.C.M. for the two numbers 3 and 6 is .... (3 *or* 6 *or* 18)

(5) The number 105 is divisible by 5 and .... (2 *or* 3 *or* 4)

(6) The sum of the measures of the interior angles of a triangle = ...°

(90 *or* 108 *or* 180)

(7) The perimeter of a square of side length 5 cm. .... the perimeter of an equilateral triangle of side length 5 cm. (< *or* > *or* =)

(8) ABC is a triangle , m (∠ A) = 100° , this the triangle is ....

(an obtuse-angled triangle *or* a right-angled triangle *or* an a cute-angled triangle)

(9) 40 000 ÷ 40 = ... (100 *or* 1 000 *or* 10 000)

(10) 1 m^2 = ... dm^2 (10 *or* 100 *or* 10 000)

2 Complete each of the following using the given answers :

(1 001 211 , 5 , rhombus , 4 , rectangle , 988 895)

(11) 587 692 + 401 203 = ...

(12) 9 806 735 – 8 805 524 = ...

(13) The prime number just before 7 is ....

(14) The diagonals are equal in length in ....

(15) .... × 25 = 100

3 ***Join from the column (A) to the suitable from the column (B) :***

(A)	(B)
(16) The value of the digit 5 in the number 351 639 is	100 000
(17) 5 000 ÷ 10 = ...	500
(18) 99 999 + 1 = ...	50 000
(19) The number whose prime factors are 2 , 3 and 5 is	10
(20) A rectangle whose dimensions are 2 cm. and 3 cm. , its perimeter = ... cm.	30

Some Schools' Examinations from Different Governorates

1 Cairo Governorate

Heliopolis Educational Zone
St. Joseph's School

Answer the following questions :

1 *Choose the correct answer :*

(1) The number 25 is a multiple of .... (2 *or* 3 *or* 5 *or* 10)

(2) The smallest prime number is .... (0 *or* 1 *or* 2 *or* 3)

(3) The area of a square of side length 1 cm. is .... cm^2

(1 *or* 2 *or* 4 *or* $\frac{1}{2}$)

(4) One milliard is the smallest number formed of .... digits.

(6 *or* 7 *or* 9 *or* 10)

(5) The right-angled triangle has .... acute angle(s).

(0 *or* 1 *or* 2 *or* 3)

(6) The figure whose four sides are equal in length is ....

(trapezium *or* parallelogram *or* rectangle *or* rhombus)

(7) In Δ ABC , if AB = BC = AC , then Δ ABC is .... triangle.

(an isosceles *or* an equilateral *or* a scalene)

(8) If ABCD is a rectangle , then $\overline{AB}$ // ....

($\overline{BC}$ *or* $\overline{AC}$ *or* $\overline{BD}$ *or* $\overline{CD}$)

(9) The number .... is a common factor of all the numbers.

(0 *or* 1 *or* 2 *or* 3)

(10) The number 25 has .... factors. (2 *or* 3 *or* 4 *or* 5)

(11) 7 million and 77 = ...

(700 077 *or* 7 000 077 *or* 7 770 000 *or* 7 000 000 77)

(12) 1 m^2 = ... cm^2 (10 *or* 100 *or* 1 000 *or* 10 000)

(13) 3 400 768 .... 398 768 (< *or* > *or* =)

(14) The place value of 7 in the number 856 742 843 is ....

(ten thousands *or* hundred thousands *or* millions *or* ten millions)

2 Complete :

(1) The diagonals of the rectangle are ....

(2) The result of : $13 \times 12 =$ ....

(3) The area of the rectangle of dimensions 4 cm. and 3 cm. is .... cm^2

(4) The prime numbers between 20 and 30 are .... and ....

(5) 2 987 605 + 87 394 = ...

(6) 3 kilometres = ... metres.

3 Answer the following questions :

(1) [a] Factorize 8 and 12 to their prime factors.

8 = ...

12 = ...

[b] Find the H.C.F. of 8 and 12

....

[c] Find the L.C.M. of 8 and 12

....

(2) [a] Draw Δ ABC in which AB = 5 cm. , m ($\angle$ A) = 90° and m ($\angle$ B) = 40°

[b] Determine the type of Δ ABC according to the measures of its angles. (..............)

(3) A man had 1 million pounds , he bought a flat for 555 000 pounds. How much money left with him ?

....

(4) Find the perimeter of the rectangle of dimensions 8 cm. and 2 cm.

....

(5) Find the result of : $567 \div 21 =$ ....

(6) Write the greatest even 7-digit number. (..............................)

(7) Find the perimeter of the square of side length 10 cm.

....

2 Cairo Governorate

Zietoun Educational Administration
Gamhouria Language School

Answer the following questions :

1 Choose the correct answer :

(1) The milliard is the smallest number formed from .... digits.
(7 *or* 8 *or* 9 *or* 10)

(2) The number 15 is a common multiple for the two numbers ....
(2 and 5 *or* 3 and 4 *or* 5 and 3)

(3) The place value of the digit 5 in the number 5 612 816 is ....
(millions *or* thousands *or* hundred thousand)

(4) .... is a common multiple for all numbers. (zero *or* 1 *or* 2)

(5) The perimeter of a square is 28 m. , then its side length is .... m.
(7 *or* 4 *or* 14)

(6) The prime number has only .... factors. (1 *or* zero *or* 2)

(7) The two diagonals of the parallelogram are ....
(bisecting each other *or* equal in length *or* perpendicular)

2 Complete :

(1) The measure of the right angle = ...

(2) 35 859 + 7 936 = ...

(3) 123 × 15 = ...

(4) 5 dm. = ... cm.

(5) The triangle whose side lengths are different in length is called ....

(6) A rectangle whose dimensions are 3 cm. and 7 cm.
, its perimeter = ... cm.

3 Choose the correct answer :

(1) Ten million , five hundred seventy-two thousand = ...
(10 507 200 *or* 10 572 000 *or* 105 721)

(2) The number .... is divisible by 3 (28 *or* 13 *or* 24)

(3) L.C.M. of 16 and 20 is .... (80 *or* 40 *or* 20)

(4) The smallest prime number is .... (1 *or* 2 *or* 0)

(5) In Δ ABC , if m ($\angle$ A) = 60° and m ($\angle$ B) = 70° , then m ($\angle$ C) = ...
(50° *or* 70° *or* 40°)

(6) All sides are equal in length in the ....
(square *or* rectangle *or* parallelogram)

(7) 6 dm^2 = ... cm^2 (6 *or* 60 *or* 600)

4 ***Answer the following :***

(1) Eman bought 24 metres of cloth for L.E. 648 Find the price of one metre.

....

(2) Find the H.C.F. for 24 and 30

....

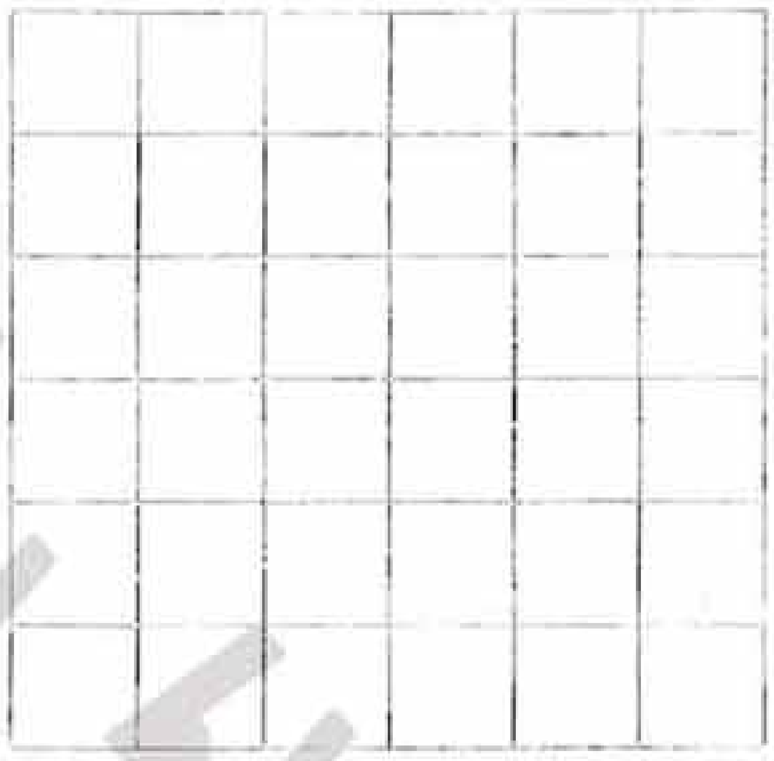
(3) Calculate : 487 × 25 = ...

(4) Find the area and the perimeter of the rectangle whose length is 7 cm. and width is 4 cm.

....

....

(5) Draw the square XYZL with side length 4 cm.



5 ***Answer the following :***

(1) Factorize the number 60 into its prime factors.

....

(2) Arrange the following numbers in an ascending order :

41 328 , 43 182 , 42 138 and 42 183

The order is : .... , ... , ... and ....

(3) Complete : 50 × 600 = ... tens.

(4) Draw Δ ABC in which AC = 6 cm. , m (∠ A) = 40° and m (∠ C) = 65°

(5) Find the area of a square with side length 5 cm.

....

3 Cairo Governorate

El-Nozha Educational Zone
Own Heliopolis Language School

Answer the following questions :

1 *Choose the correct answer :*

(1) The place value of the digit 8 in 58 679 214 is ....
(tens *or* hundreds *or* thousands *or* millions)

(2) The number 108 is divisible by the two prime numbers ....
(2 and 5 *or* 3 and 7 *or* 2 and 3 *or* 3 and 5)

(3) If the side length of a square is 6 cm. , then its area = ... cm^2.
(12 *or* 24 *or* 36 *or* 48)

(4) The smallest prime number is .... (0 *or* 1 *or* 2 *or* 3)

(5) In Δ XYZ , m ($\angle$ X) = 40° and m ($\angle$ Y) = 30° , Δ XYZ is .... -angled triangle. (acute *or* right *or* obtuse)

(6) L.C.M. of the two numbers 24 and 18 is ....
(64 *or* 72 *or* 144 *or* 432)

(7) 950 000 – 324 067 = ...
(324 933 *or* 324 076 *or* 625 933 *or* 675 933)

(8) 720 ÷ 9 .... (72 ÷ 9) × 10 (< *or* = *or* >)

(9) All the sides are equal in length in the ....
(square *or* rectangle *or* parallelogram *or* trapezium)

(10) 8 × 524 × 125 = ...
(524 tens *or* 524 thousands *or* 524 hundreds *or* 524 millions)

(11) Area of the flat which I live in is ....
(75 km^2. *or* 75 cm^2. *or* 75 m^2. *or* 75 dm^2.)

(12) 7 423 856 – 5 018 738 .... 2 415 117 (< *or* = *or* >)

(13) The triangle whose each of its side lengths is 6 cm. is .... triangle.
(scalene *or* equilateral *or* isosceles)

(14) H.C.F. of two numbers 12 and 16 equals ....
(2 *or* 4 *or* 6 *or* 8)

2 *Complete :*

(1) The factors of the number 18 are ....

(2) In Δ ABC , m ($\angle$ A) = m ($\angle$ B) = 45° , then m ($\angle$ C) = ...°

(3) 35 m.^{2} = ... cm.^{2}

(4) 98 785 124 = 124 + ... + 98 700 000

(5) The number 9 million , 548 thousand and 81 in digits is ....

(6) 50 × 600 = ... tens.

3 ***Answer the following :***

(1) 17 620 + 5 356 = ...

(2) 4 803 × 67 = ...

(3) (400 ÷ 4) × 888 = ...

(4) 2 525 ÷ 25 = ...

(5) 50 × 30 = 10 × .... × ....

(6) 60 000 – 34 856 = ...

(7) In a school , if 798 pupils are distributed equally among 19 classes. Find the number of pupils in each class.

....

(8) A rectangle its dimensions are 2 m. and 150 cm. Find its perimeter.

....

(9) Draw Δ ABC in which AB = BC = 4 cm. and m (∠ B) = 60° , then find :

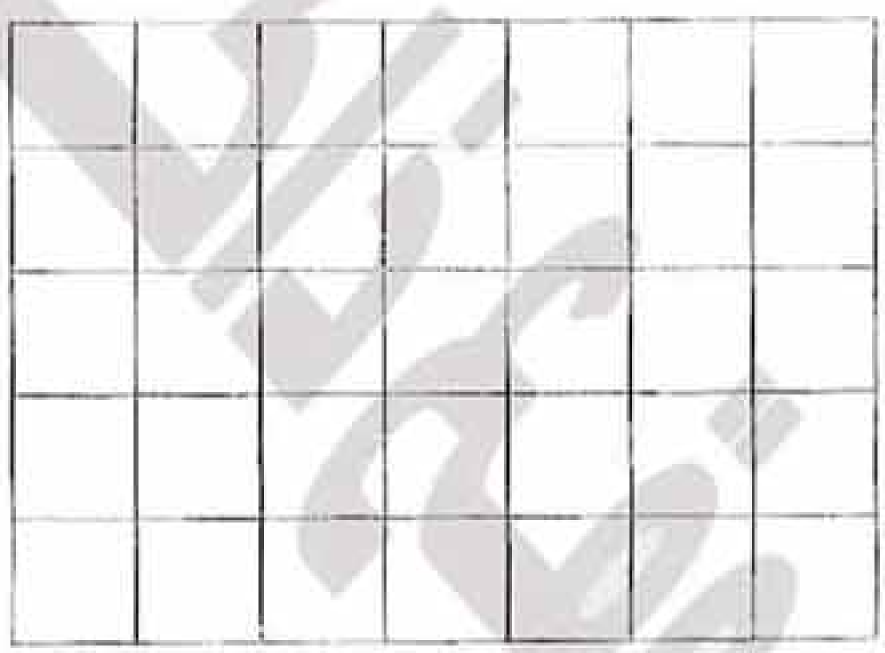
[a] The length of $\overline{AC}$ = ... cm.

[b] The type of triangle according to the measures of its angles. (...............)

(10) Find the area of the coloured part and also its perimeter (consider that the side lengtha of the small square is 1 cm.)

[a] The area = ...

[b] The perimeter = ...



4 Giza Governorate

Haram Educational Zone
Elwy Language Schools

Answer the following questions :

1 ***Complete each of the following :***

(1) $\frac{1}{4}$ of a day = ... hours.

(2) The place value of the digit 8 in the number 8 123 456 is .... while the value of the digit 8 is ....

(3) If you have a rectangle of dimensions 80 cm. and 50 cm. , then its area = ... cm^2 , while its perimeter = ... cm.

(4) 37 ÷ 8 = ... and the remainder is ....

(5) Multiples of 7 are .... , ... , ... and ....

(6) 4 m^2 = ... cm^2 , while 5 km^2 = ... m^2

2 *Choose the correct answer :*

(1) An angle whose measure is 85° is .... angle.
(acute *or* right *or* straight *or* obtuse)

(2) 999 999 + 1 = ...
(ten thousand *or* hundred thousand *or* one million *or* one milliard)

(3) The area of a square of side length 8 cm. equals .... cm^2
(16 *or* 32 *or* 64 *or* 128)

(4) 365 is divisible by .... (2 *or* 3 *or* 5 *or* 6)

(5) The sum of the measures of the interior angles of any triangle = ...°
(60 *or* 90 *or* 180 *or* 360)

(6) If the perimeter of a square = 36 cm. , then its area = ... cm^2
(9 *or* 18 *or* 72 *or* 81)

(7) In an equilateral triangle , the measure of each angle is ....°
(30 *or* 60 *or* 90 *or* 180)

(8) A pentagon is a polygon with .... sides. (4 *or* 5 *or* 6 *or* 8)

(9) .... is not a prime number. (3 *or* 11 *or* 13 *or* 15)

(10) 7 milliards = ... millions. (70 *or* 700 *or* 7 000 *or* 70 000)

(11) The H.C.F. of the two numbers 45 and 18 is ....
(3 *or* 6 *or* 9 *or* 18)

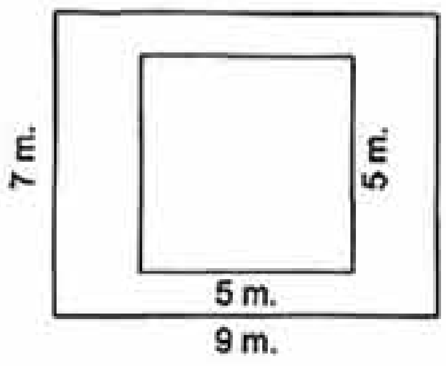
(12) 49 million , 25 thousand and 13 = ...
(492 513 *or* 4 902 513 *or* 49 025 130 *or* 49 025 013)

(13) All the four sides are equal in length in the ....
(square *or* rectangle *or* parallelogram *or* trapezium)

(14) 3 km. = ... m. (30 *or* 300 *or* 3 000 *or* 30 000)

3 Answer the following :

(1) Find the area of the shaded part in the opposite figure.



....

....

(2) Find H.C.F. , then L.C.M. for 24 and 30

....

....

(3) In a school of 612 pupils are distributed equally on 18 classes. Find the number of pupils in each class.

....

(4) Draw Δ ABC in which AB = 8 cm. , m ($\angle$ A) = 50° and m ($\angle$ B) = 70°
Find m ($\angle$ C) write the type of the triangle according to the measure of its angles.

(5) Calculate : 497 × 25 = ...

(6) Find the result : 27 620 + 4 356 = ...

(7) 7 200 ÷ 3 .... 80 × 30 , put the suitable relation (< , > or =)

(8) Calculate : 80 000 – 76 543 = ...

(9) Complete : 8 × 937 × 125 = 8 × .... × 937 = ... × 937 = ...

(10) Complete : The prime numbers between 10 and 20 are ....

5 Giza Governorate

Omrania Educational Zone
Maths Inspection

Answer the following questions :

1 Choose the correct answer :

(1) The number two milliard , 512 million , 310 thousand and 715 is ....
(2 512 314 715 *or* 2 512 310 715 *or* 2 512 310 517)

(2) The place value of digit 8 in the number 318 412 900 is ....
(thousands *or* millions *or* milliards)

(3) 7 000 thousands = ...
(7 millions *or* 7 milliards *or* hundreds)

(4) The number 56 is divisible by the number .... (7 *or* 9 *or* 5)

(5) The number .... is a multiple of the number 8 (22 *or* 24 *or* 14)

(6) 303 ÷ 3 = ... (111 *or* 110 *or* 101)

(7) The smallest 8-digit number is ....
(million *or* ten million *or* hundred thousand)

(8) The only prime even number is .... (4 *or* 3 *or* 2)

(9) The two diagonals are perpendicular and equal in length in ....
(rectangle *or* square *or* parallelogram)

(10) The sum of measures of interior angles of a triangle equals ....
(108° *or* 180° *or* 125°)

(11) 24 dm. = ... cm. (240 *or* 2 400 *or* 24 000)

(12) The perimeter of square = side length × .... (5 *or* 3 *or* 4)

(13) The area of rectangle of length 8 cm. and width 5 cm. is ....
(40 cm^2 *or* 26 cm^2 *or* 46 cm^2)

(14) 5 m^2 = ... dm^2 (500 *or* 5 000 *or* 50)

2 Complete the following :

(1) The factors of the number 6 are .... , ... , ... and ....

(2) The quadrilateral has .... sides.

(3) In triangle ABC , if m (∠ A) = 50° and m (∠ B) = 70° , then m (∠ C) = ...

(4) The value of the digit 4 in the number 546 789 is ....

(5) The polygon of six sides is called ....

(6) If the perimeter of a square is 28 cm. , then its side length is .... cm.

3 Answer the following :

(1)
```
   5 1 8
 ×   3 6
 -------
 .......
```

(2)
```
   5 6 3 4 2 7 1
 −   1 2 7 1 6 2
 ---------------
 ...............
```

(3)
```
   5 1 9 6 9
 + 2 6 2 3 1
 -----------
 ...........
```

(4) Find the H.C.F. and the L.C.M. of the two numbers 16 and 24

....

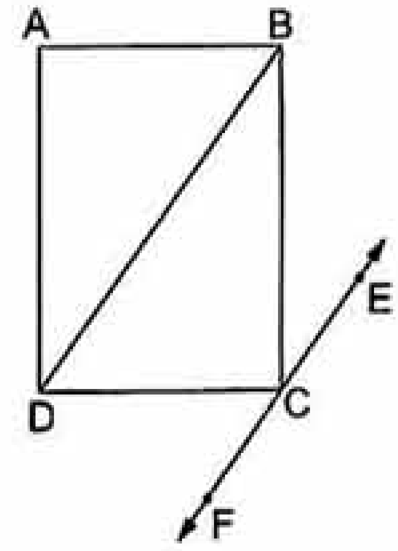
....

(5) 24 012 ÷ 12 = ...

(6) Calculate the area of the square of side length 7 cm.

....

(7) ***From the opposite figure , put (⊥ or //) :***



[a] $\overline{AB}$ .... $\overline{BC}$

[b] $\overline{AB}$ .... $\overline{DC}$

[c] $\overline{EF}$ .... $\overline{BD}$

[d] $\overline{DA}$ .... $\overline{AB}$

(8) Calculate the area of rectangle whose dimensions are 3 cm. and 7 cm.

....

(9) Draw triangle ABC in which

AB = 4 cm. , BC = 3 cm.

and m (∠ B) = 90°

6 Alexandria Governorate

East Educational Zone
Supervision of Maths

Answer the following questions :

1 *Choose the correct answer :*

(1) The place value of the digit 5 in the number 5 612 816 is ....

(thousands ***or*** millions ***or*** tens ***or*** hundred thousands)

(2) .... is one of the factors of the number 8

(5 ***or*** 16 ***or*** 4 ***or*** 20)

(3) Hundred thousand and three hundred seventy-five is ....

(10 315 ***or*** 100 375 ***or*** 1 030 075)

(4) 70 × 20 = 14 × .... (10 ***or*** 20 ***or*** 100 or 1 000)

(5) The two diagonals of a .... are equal in length and perpendicular.

(rectangle ***or*** square ***or*** parallelogram ***or*** rhombus)

(6) The number .... is a prime number. (12 ***or*** 15 ***or*** 17 ***or*** 21)

(7) The sum of measures of the interior angles of any triangle = ...

(108° ***or*** 90° ***or*** 180° ***or*** 100°)

(8) The perimeter of square whose side length is 3 cm. = ... cm.

(9 or 6 or 12 or 16)

(9) The number .... is divisible by each of 2 and 5

(44 or 78 or 80 or 95)

(10) The sides of lengths 5 cm. , 6 cm. and 5 cm. are of .... triangle.

(an isosceles or a scalene or an equilateral)

(11) 5 million .... 500 000 (> or = or <)

(12) The number 108 is divisible by the two prime numbers 3 and ....

(5 or 2 or 7 or 9)

(13) The common multiple of all the numbers is ....

(0 or 1 or 3 or 10)

(14) 3 km. .... 300 metres. (> or = or <)

2 *Complete the following :*

(1) Two million , 37 thousand and 9 (in digits) = ...

(2) 5 600 dm^2 = ... m^2

(3) The factors of the number 15 are .... , ... , ... and ....

(4) The triangle whose side lengths are different is called .... triangle.

(5) L.C.M. for the two numbers 3 and 7 is ....

(6) The area of a square = ... × ....

3 *Answer the following :*

(1) Find (H.C.F.) and (L.C.M.) of the numbers 24 and 18

....

....

(2) Draw the triangle ABC in which BC = 4 cm. , m (∠ B) = 70° and m (∠ C) = 50° , then what is the type of Δ ABC according to the measures of its angles ? (..............)

(3) A rectangle of dimensions are 7 cm. and 3 cm. Find its area and its perimeter.

....

....

(4) A hotel contains 192 rooms divided equally by number of floors , each floor contains 16 rooms. How many floors are there in this hotel ?

....

(5) *Find the result of :*

[a] 893 756 – 431 877 = ... [b] 235 × 13 = ...

7 El-Kalyoubia Governorate

Maths Inspection

Answer the following questions :

1 Choose the correct answer :

(1) The numbers 1 , 5 and 7 are .... numbers.

(odd ***or*** even ***or*** prime ***or*** otherwise)

(2) 4×25 ☐ $100 \div 2$ (> ***or*** < ***or*** = ***or*** otherwise)

(3) The common factor of all numbers is .... (0 ***or*** 1 ***or*** 2 ***or*** 3)

(4) The measure of right angle = ... (30° ***or*** 60° ***or*** 90° ***or*** 180°)

(5) One milliard – one million = ...

(10 000 hundreds ***or*** 99 900 thousands ***or*** 999 millions ***or*** 99 millions)

(6) 110° , 50° and 20° are the measures of .... -angled triangle.

(an acute ***or*** a right ***or*** an obtuse)

(7) The number .... is divisible by 5

(102 ***or*** 103 ***or*** 104 ***or*** 105)

(8) The place value of the digit 6 in the number 9 365 421 is ....

(thousands ***or*** ten thousands ***or*** hundred thousands ***or*** millions)

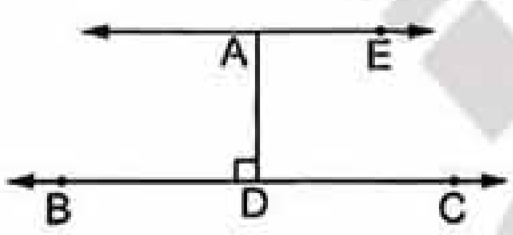
(9) 43 m^2 = ... dm^2 (43 ***or*** 430 ***or*** 4 300 ***or*** 43 000)

(10) The perimeter of a square of side length 7 cm. = ...

(28 cm^2 ***or*** 28 cm. ***or*** 28 m. ***or*** 28 dm.)

(11) ***In the opposite figure :***

$\overline{AD}$ .... $\overline{BC}$



(// ***or*** ⊥ ***or*** =)

(12) 123 457 + ... = one million

(876 543 ***or*** 345 672 ***or*** 354 763 ***or*** 872 534)

(13) The value of the digit 9 in the number 597 643 is ....

(900 ***or*** 9 000 ***or*** 90 000 ***or*** 900 000)

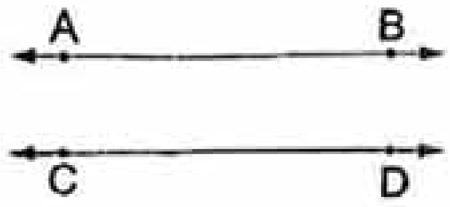
(14) In operation $38 \div 7$, then the relation between the elements of division is .... ($5 \times 3 \times 7$ ***or*** $5 \times (3 + 7)$ ***or*** $(5 \times 7) + 3$ ***or*** $(5 + 3 + 7)$)

2 Complete the following :

(15) The two diagonals of the rectangle are .... in length.

(16) 8 million , 207 thousand and 43 = ...

(17) The two lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are ....



(18) 17 km. = ... m.

(19) The smallest number formed from 4 , 9 , 5 , 0 , 7 and 8 is ....

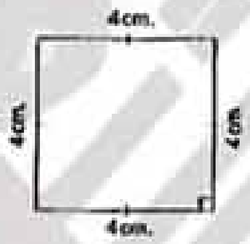
(20) The factors of the number 6 are .... , ... , ... and ....

(21) The triangle is a polygon that has .... sides and .... angles.

(22) L.C.M. for the two numbers (2 × 5) and (2 × 3 × 5) is ....

(23) All the multiples of 4 between 10 and 20 are ....

(24) 625 × 35 = 35 × (.............. + 20 + ...)

(25) The area of square  ÷ The area of rectangle  = $\frac{\dots\dots}{\dots\dots}$

---

3 *Answer the following :*

(26) Find the H.C.F. for the two numbers 10 and 15

....

....

(27) Arrange in an ascending order :

decimetre , metre , millimetre and kilometre

The order is : .... , ... , ... and ....

(28) 8 765 432 – 765 thousands = ...

(29) A primary school is formed from 20 classes of 45 pupils each.
Calculate the total number of the pupils.

....

(30) Draw the triangle ABC in which
AB = 4 cm. , BC = 3 cm.
and m (∠ B) = 90°
, then find the length of $\overline{AC}$

....

8 El-Sharkia Governorate

Directorate of Education
Dep. of Governmental L. Schools

Answer the following questions :

1 Choose the correct answer :

(1) The number 4 407 is divisible by .... (2 *or* 3 *or* 5)

(2) The place value of 8 in the number 18 705 243 is ....
(thousands *or* milliards *or* millions)

(3) The smallest prime number is .... (1 *or* 3 *or* 2)

(4) 9 600 ÷ 4 ☐ 60 × 40 (> *or* < *or* =)

(5) All the .... numbers are divisible by 2
(odd *or* even *or* prime)

(6) The sum of the measures of the interior angles of a triangle is ....
(108° *or* 180° *or* 90°)

(7) 83 dm^2 ☐ 890 cm^2 (< *or* > *or* =)

(8) Measure of the straight angle ☐ measure of the obtuse angle.
(> *or* = *or* <)

(9) All sides are equal in length in the ....
(parallelogram *or* square *or* rectangle)

(10) The numbers 2 , 3 , 5 and 7 are called .... numbers.
(prime *or* odd *or* even)

(11) The number .... is divisible by 2 and 3 (10 *or* 18 *or* 21)

(12) The number .... is a multiple of 5 (53 *or* 85 *or* 501)

(13) The number .... is a common multiple of all numbers.
(1 *or* 2 *or* 0)

(14) 70 × 200 = 14 × .... (10 *or* 100 *or* 1 000)

2 Complete the following :

(15) The perimeter of a square is 28 cm. , then its side length is .... cm.

(16) $5\frac{1}{2}$ km. = ... m.

(17) In the rectangle , all angles are ....

(18) The value of the digit 5 in the number 354 267 189 is ....

(19) 4 × 379 × 25 = ...

(20) 8 123 459 – 7 millions = ...

3 Answer the following :

(21) Find L.C.M. of 18 and 24

18 = ...

24 = ...

L.C.M. = ...

(22) 760 843 + 214 537 = ...

(23) 93 057 – 14 583 = ...

(24) 207 × 18 = ...

(25) 62 550 ÷ 25 = ...

(26) Mazen bought 38 metres of cloth , the price of each metre is L.E. 125
How much money did Mazen pay ?

....

(27) In Δ ABC , if m (∠ A) = 55° and m (∠ B) = 80° Find : m (∠ C)

....

(28) The perimeter of a square is 36 cm. Find its area.

Length of each side = ...

Area of a square = ...

(29) Find the perimeter of the rectangle whose dimensions are 12 cm. and 8 cm.

The perimeter = ...

(30) Draw Δ ABC in which AB = BC = 5 cm.
and m (∠ B) = 60°

9 El-Monofia Governorate

Maths Language Supervision

Answer the following questions :

1 Choose the correct answer :

(1) The number .... is divisible by 5 and 3 (45 *or* 40 *or* 20 *or* 35)

(2) 8 dm^2 = ... cm^2 (80 *or* 8 *or* 800 *or* 8 000)

(3) 5 milliards .... 500 millions. (> *or* < *or* =)

(4) The number of factors of any prime number is ....

(0 *or* 4 *or* 1 *or* 2)

(5) The H.C.F. of the two numbers 9 and 12 = ...

(2 *or* 3 *or* 4 *or* 6)

(6) The number of sides of any polygon does not equal to the number of its .... (angles *or* diagonals *or* vertices)

(7) 2 958 ÷ 34 .... 2 958 ÷ 87 (> *or* < *or* =)

(8) L.C.M. of the two numbers 5 and 10 is ....
(5 *or* 50 *or* 10 *or* 20)

(9) Ten million , eight hundred seventy-three thousands = ...
(10 507 200 *or* 1 087 020 *or* 10 810 073 *or* 10 873 000)

(10) The side length of the square whose perimeter is 28 cm. = ... cm.
(9 *or* 7 *or* 14 *or* 4)

(11) The value of the digit 6 in the number 756 218 743 = ...
(600 *or* 6 000 *or* 6 000 000 *or* 60 000 000)

(12) If 47 × 15 = 705 , then 710 = 47 × 15 + ...
(5 *or* 4 *or* 40 *or* 30)

(13) The number .... is divisible by 3 (323 *or* 732 *or* 404 *or* 328)

(14) The triangle whose side lengths are 3 cm. , 5 cm. and 6 cm. is .... triangle. (equilateral *or* isosceles *or* scalene)

2 Complete the following :

(1) The even prime number is ....

(2) The side length of the square whose area is 36 cm^2 = ... cm.

(3) L.C.M. for the two numbers 3 and 5 is ....

(4) The diagonals of the rectangle are .... and ....

(5) The smallest number formed from the digits 3 , 6 , 0 , 5 , 7 and 9 is ....

(6) The perimeter of the rectangle whose two dimensions are 8 cm. and 5 cm. is .... cm.

3 Answer the following :

(1) 362 174 + 218 317 = ...

(2) 986 371 – 248 637 = ...

(3) 4 × 89 × 25 = ...

(4) 426 × 43 = ...

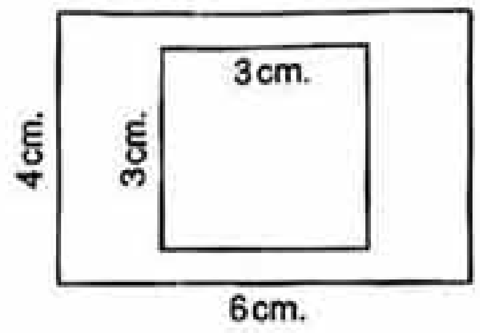
(5) Find H.C.F. and L.C.M. for the two numbers 18 and 24

....

....

(6) *In the opposite figure :*

Find the area of the shaded part.



....

....

(7) In a school , if 798 pupils are distributed equally among 19 classes. Find the number of pupils in each class.

....

(8) Draw Δ ABC in which AB = 6 cm. ,

m ($\angle$ A) = 30° and m ($\angle$ B) = 60° ,

then find :

[a] m ($\angle$ C) = ...°

[b] The type of the triangle according to the measures of its angles (..............).

10 El-Gharbia Governorate

El-Gharbia Educational Directorate
Maths Supervision

Answer the following questions :

1 ***Choose the correct answer :***

(1) 32 million , 5 thousand and 24 in digits is ....
(32 500 024 *or* 32 524 *or* 32 005 024 *or* 3 000 524)

(2) 234 × 23 = ... (5 382 *or* 5 832 *or* 2 853 *or* 8 235)

(3) The hexagon has .... sides. (5 *or* 4 *or* 6 *or* 7)

(4) The prime number whose sum of its factors is 6 is ....
(2 *or* 5 *or* 7 *or* 3)

(5) The diagonals are equal in length in ....
(trapezium *or* rectangle *or* rhombus *or* parallelogram)

(6) The area of a rectangle whose dimensions are 6 cm. and 4 cm. = ... cm^2 (40 *or* 20 *or* 24 *or* 10)

(7) 25 × 61 × 4 = ... hundreds. (6 100 *or* 6 001 *or* 61 *or* 610)

2 Choose the correct answer :

(1) The smallest prime number is .... (0 or 1 or 2 or 3)

(2) Million is the smallest number formed from .... digits. (6 or 7 or 5 or 10)

(3) The H.C.F. of 12 and 4 is .... (24 or 12 or 2 or 4)

(4) Two intersecting straight lines intersect at .... point(s). (0 or 1 or 2 or 3)

(5) 5 m^2 = ... cm^2 (50 or 500 or 50 000 or 5 000)

(6) The number .... is divisible by 5 (342 or 213 or 334 or 425)

(7) 428 638 – 216 345 = ... (212 193 or 212 239 or 212 293 or 212 093)

3 Complete each of the following :

(1) The number of factors 6 is ....

(2) The place value of 7 in the number 2 745 318 is ....

(3) The sum of measures of interior angles of a triangle is ....°

(4) The smallest number whose prime factors are 2 , 3 and 5 is ....

(5) The perimeter of a square whose side length is 8 cm. = ... cm.

(6) 2 400 cm. = ... dm.

4 (1) ***Find the result of each of the following :***

[a] 62 491 + 251 542 = ...

[b] 893 756 – 431 877 = ...

[c] 123 × 15 = ...

(2) A rectangle , its length is 5 cm. and its width is 3 cm. Find its perimeter.
Perimeter of rectangle = ... = ... cm.

(3) A group of 328 tourists is divided into 8 buses. Find the number of tourists each bus can carry.
The number or tourists in a bus = ... = ... tourists.

5 (1) Draw the triangle ABC in which
AB = 4 cm. , m (∠ A) = 60°
and m (∠ B) = 30° , then complete :

[a] m (∠ C) = ...°

[b] Its type according to its angles measures is .... -angled triangle.

(2) Factorize 6 and 9 , then find H.C.F. of 6 and 9

6 = ...

9 = ...

H.C.F. = ...

6	9

(3) Arrange the following numbers in an ascending order :

523 145 , 214 569 , 86 458 and 21 987

The order is : .... , ... , ... and ....

(4) A square , its perimeter is 24 cm. Find its area.

Side length = ... = ... cm.

Area = ... = ... cm^2

11 El-Dakahlia Governorate

Maths Supervision

Answer the following questions :

1 *Choose the correct answer :*

(1) Twenty-three million , four thousand and sixty in digits = ...
(23 004 060 ***or*** 234 000 060 ***or*** 23 000 460 ***or*** 32 004 060)

(2) The place value of 6 in the number 946 123 897 ....
(ten millions ***or*** millions ***or*** hundred millions ***or*** ten thousand)

(3) 6 $dm.^2$ = ... $cm.^2$ (6 ***or*** 60 ***or*** 600 ***or*** 6 000)

(4) .... is divisible by 3 (112 ***or*** 29 ***or*** 222 ***or*** 17)

(5) H.C.F. for 6 and 7 is .... (1 ***or*** 0 ***or*** 2 ***or*** otherwise)

(6) One million – the greatest 6-digit number = ...
(100 000 ***or*** 10 000 ***or*** 1 000 ***or*** 1)

(7) .... is a multiple of number 5 (222 ***or*** 333 ***or*** 444 ***or*** 220)

(8) 7 milliards = ... millions. (70 ***or*** 700 ***or*** 7 000 ***or*** 70 000)

(9) If 45 × 13 = 585 , then 589 = 45 × 13 + ...
(2 ***or*** 4 ***or*** 30 ***or*** 60)

(10) Hundred million is the smallest number consists of .... digits.
(6 ***or*** 7 ***or*** 8 ***or*** 9)

(11) The type of triangle whose side lengths are 6 cm. , 7 cm. and 6 cm. is .... (scalene ***or*** isosceles ***or*** equilateral ***or*** right)

(12) The number of sides of a hexagon = ... (4 *or* 5 *or* 6 *or* 7)

(13) Two parallel lines intersect at .... points. (0 *or* 1 *or* 2 *or* 4)

(14) L.C.M. for the two numbers is 20 , then the two numbers are ....
(2 and 5 *or* 3 and 5 *or* 4 and 5 *or* 6 and 5)

2 *Complete the following :*

(1) The four angles are right in square and ....

(2) The value of the digit 4 in the number 354 267 198 is ....

(3) .... kilometres = 9 000 metres.

(4) Side length of a square = the perimeter ÷ ....

(5) Each number is a factor of itself except ....

(6) 123 765 089 , 123 655 089 , 123 545 089 , ... (in the same pattern)

3 *Answer the following :*

(1) Factorize the two numbers 24 and 36 to their prime factors , then find :

[a] H.C.F. **[b]** L.C.M.

....

....

(2) Find the area and the perimeter of :

[a] The square of side length 5 cm.

....

[b] The rectangle whose two dimension are 6 dm. and 4 dm.

....

(3) 650 pupils in a school are distributed equally among 25 classes.
Find the number of pupils in each class.

....

(4) Ahmed bought 35 books , if the price of each book is 68 pounds , if he had 3 000 pounds. Find the remainder with him.

....

....

(5) Draw the triangle ABC in which AB = 6 cm.

, m (∠ A) = 45° and m (∠ B) = 100° , then find :

[a] m (∠ C) = ...°

[b] The type of the triangle according to the measures of its angles. (..............)

[c] The type of the triangle according to the lengths of its sides. (..............)

(6) Arrange the following numbers in an ascending order :

1 230 145 , 10 007 729 , 321 045 , 1 000 779 and 897 012

The order is : .... , ... , ... , ... and ....

(7) Find the greatest number and the smallest number that can be consist : 7 , 0 , 2 , 5 , 9 and 4 , then find the difference between them.

....

....

12 Ismailia Governorate

Directorate of Education
Directing Mathematics

Answer the following questions :

1 ***Choose the correct answer :***

(1) .... is a common multiple of all numbers. (0 *or* 1 *or* 2 *or* 7)

(2) .... is a prime number. (15 *or* 16 *or* 17 *or* 18)

(3) The two diagonals are perpendicular and not equal in length in ....

(rhombus *or* square *or* rectangle *or* triangle)

(4) Two parallel straight lines form 4 right angles. (✓ *or* ✗)

(5) A square , its perimeter is 8 cm. , then its side length = ... cm.

(2 *or* 4 *or* 64 *or* 32)

(6) 358 is divisible by .... (2 *or* 3 *or* 5 *or* 6)

(7) 9 has .... factors. (2 *or* 3 *or* 4 *or* 5)

(8) 3 m^2 = ... cm^2 (300 *or* 3 000 *or* 30 000 *or* 300 000)

(9) 65 million , 65 thousand = ...

(6 565 000 *or* 65 065 000 *or* 6 500 065 *or* 65 000)

(10) Rhombus has 4 equal sides. (✓ *or* ✗)

(11) L.C.M. of 5 and 7 is .... (35 *or* 5 *or* 7 *or* 12)

(12) The angle whose measure is 110° is .... angle.

(acute *or* right *or* obtuse or straight)

(13) 500 × 2 000 = one million. (✓ *or* ✗)

(14) 875 ÷ 25 .... 875 ÷ 5 (> *or* < *or* =)

2 Complete the following :

(1) $\frac{1}{2}$ million = ...

(2) The factors of 12 are ....

(3) The quadrilateral has .... sides.

(4) One million has .... digits.

(5) A rectangle , its length is 5 cm. and width is 3 cm. , then its area = ... cm^2.

(6) A square , its side length is 10 cm. , then its perimeter = ... cm.

3 Answer the following :

(1) 62 × 26 = ...

(2) 552 ÷ 23 = ...

(3) 78 ÷ 3 = ...

(4) 6 508 + 2 972 = ...

(5) 4 639 – 1 390 = ...

(6) Find L.C.M. of 12 and 18

....

....

(7) A rectangle , its length is 6 cm. and width is 5 cm. Find its perimeter.

....

(8) A square , its side length is 7 cm. Find its area.

....

(9) In triangle ABC , if m (∠ A) = 60° and m (∠ B) = 40° Find : m (∠ C)

....

(10) Draw the triangle XYZ in which
XY = 6 cm.` , m (∠ X) = 50°
and m (∠ Y) = 60°

13 Suez Governorate

Maths Inspection

Answer the following questions :

1 Choose the correct answer :

(1) The smallest 7-digit number is ....
(milliard *or* million *or* hundred thousand)

(2) The only even prime number is .... (2 *or* 0 *or* 4)

(3) The measure of right angle = ... (180° *or* 99° *or* 90°)

(4) The common factor for all numbers is .... (0 *or* 1 *or* 3)

(5) 999 999 ☐ one million (> *or* = *or* <)

(6) 45 tens = ... (45 *or* 450 *or* 4 500)

(7) Two perpendicular straight lines form .... right angles.
(2 *or* 3 *or* 4)

(8) The perimeter of square of side 5 cm. is .... cm.
(20 *or* 25 *or* 10)

(9) The number .... is divisible by 5 (51 *or* 40 *or* 92)

(10) The measure of acute angle ☐ The measure of obtuse angle.
(> *or* = *or* <)

(11) All the .... numbers are divisible by 2 (odd *or* even *or* prime)

(12) The two diagonals are equal in length and perpendicular in ....
(rhombus *or* rectangle *or* square)

(13) $\frac{1}{2}$ km. = ... m. (500 *or* 50 *or* 5)

(14) The trianlge whose side lengths are 7 cm. , 5 cm. and 7 cm.
is .... triangle. (a scalene *or* an isosceles *or* an equilateral)

2 Complete the following :

(1) Perimeter of rectangle = (............... + ...) × ....

(2) The place value of 6 in 4 683 524 is ....

(3) The number of sides of pentagon is ....

(4) 8 million , 54 thousand and 365 = ...

(5) The sum of the measures of the interior angles of a triangle is ....

(6) .... ÷ 5 = 9

3 Answer the following :

(1) 452 013 + 439 815 = ...

(2) 7 256 312 – 7 056 300 = ...

(3) Find the area of square of side 6 cm.
The area = ... = ... cm^2.

(4) Factorize the two numbers 6 and 10 , then find the H.C.F. and the L.C.M. for them :
6 = ...
10 = ...
H.C.F. = ...
L.C.M. = ...

(5) 35 × 426 = ...

(6) Find the area of rectangle of dimensions 6 cm. and 4 cm.
The area = ... = ...

(7) Arrange in an ascending order :
2 436 587 , 69 458 , 585 321 and 9 765
The order is : .... , ... , ... and ....

(8) 372 ÷ 12 = ...

(9) Draw the triangle ABC in which AB = 7 cm. , m (∠ B) = 60° and BC = 6 cm.

14 Port Said Governorate

Mathematics Supervision

Answer the following questions :

1 Complete :

(1) The smallest 7-digit number is ....

(2) 3 km. = ... m.

(3) The smallest prime number is ....

(4) The area of the rectangle whose dimensions are 3 cm. and 5 cm. is .... cm^2.

(5) The greatest number formed from the digits 5 , 8 , 4 and 9 is ....

(6) The measure of the right angle = ...°

2 *Choose the correct answer :*

(1) The value of the digit 4 in the number 547 627 is ....
(40 000 *or* 400 000 *or* 4 000 *or* 4 000 000)

(2) 850 cm. = ... dm. (8 500 *or* 85 000 *or* 85 *or* 850)

(3) The greatest 6-digit number is ....
(999 999 *or* 987 654 *or* 100 000 *or* 666 666)

(4) The number .... is divisible by 5 (551 *or* 594 *or* 54 *or* 495)

(5) 805 × 100 = ... × 10 (85 *or* 8 050 *or* 250 *or* 805)

(6) The place value of the digit 3 in the number 8 376 542 is ....
(thousands *or* millions *or* tens *or* hundred thousands)

(7) 150 thousands = ... (15 000 *or* 1 500 *or* 150 000 *or* 150)

(8) The prime number has only .... factors. (1 *or* 2 *or* 3 *or* 4)

(9) The two perpendicular straight lines form 4 .... angles.
(right *or* acute *or* straight *or* obtuse)

(10) 71 million , 354 thousand and 12 is ....
(71 354 120 *or* 7 135 412 *or* 71 354 012 *or* 1 735 412)

(11) The polygon of 5 sides is called ....
(pentagon *or* square *or* hexagon *or* rhombus)

(12) The common multiple for all numbers is ....
(0 *or* 10 *or* 1 *or* 100)

(13) The perimeter of square whose side length is 3 cm. is ....
(9 cm. *or* 14 cm. *or* 6 cm. *or* 12 cm.)

(14) The sum of measures of the interior angles of any triangle = ...
(180° *or* 90° *or* 108° *or* 120°)

---

3 (1) Arrange the following numbers in an ascending order :
41 328 , 43 182 , 42 138 and 42 183
The order is : .... , ... , ... and ....

(2) *Find the result :*
[a] 879 156 + 498 068 = ...
[b] 768 594 – 153 037 = ...

---

4 (1) Find H.C.F. and L.C.M. of the numbers 6 and 8
....
....

(2) Draw Δ ABC in which AB = 4 cm.
, BC = 3 cm. , m ($\angle$ B) = 90° Find :
[a] The length of $\overline{AC}$ = ...
[b] The perimeter of Δ ABC = ...

15 Damietta Governorate

Directorate of Education
Maths Inspection

Answer the following questions :

1 *Choose the correct answer :*

(1) The value of the digit 8 in the number 1 096 835 is ....
(8 ***or*** 80 ***or*** 800 ***or*** 8 000)

(2) The numbers 2 , 3 , 5 and 7 are called .... numbers.
(prime ***or*** odd ***or*** even ***or*** equal)

(3) The two perpendicular straight lines form 4 .... angles.
(acute ***or*** right ***or*** obtuse ***or*** straight)

(4) A rectangle whose area is 15 cm^2 and its length is 5 cm. , then its width = ... cm.
(3 ***or*** 10 ***or*** 75 ***or*** 20)

(5) One million is the smallest number formed from .... digits.
(6 ***or*** 7 ***or*** 8 ***or*** 10)

(6) The smallest odd prime number is .... (0 ***or*** 1 ***or*** 2 ***or*** 3)

(7) The two diagonals are equal in length and not perpendicular in ....
(square ***or*** rectangle ***or*** rhombus ***or*** parallelogram)

(8) The number 36 is divisible by the two prime numbers ....
(2 and 5 ***or*** 3 and 5 ***or*** 2 and 3 ***or*** 2 and 7)

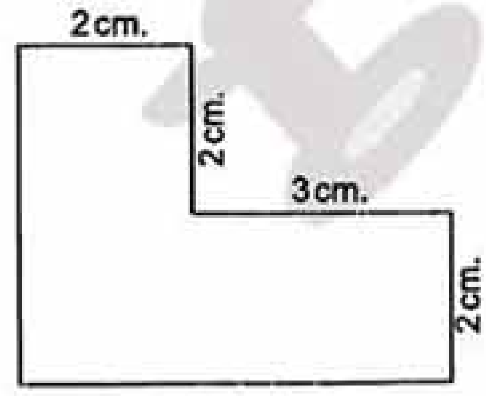
(9) 40 × 70 .... 280 tens. (> ***or*** = ***or*** <)

(10) The triangle whose side lengths are 6 cm. , 3 cm. and 6 cm. is called .... (scalene ***or*** right ***or*** equilateral ***or*** isosceles)

(11) The place value of the digit 5 in the number 13 564 972 is ....
(ten thousands ***or*** ten millions ***or*** hundred thousands ***or*** millions)

(12) The number of the factors of the number 8 is ....
(2 ***or*** 4 ***or*** 6 ***or*** 8)

(13) The perimeter of the opposite figure = ... cm.



(9 ***or*** 13 ***or*** 14 ***or*** 18)

(14) The common multiple of all the numbers is ....
(0 ***or*** 1 ***or*** 2 ***or*** 3)

2 Complete the following :

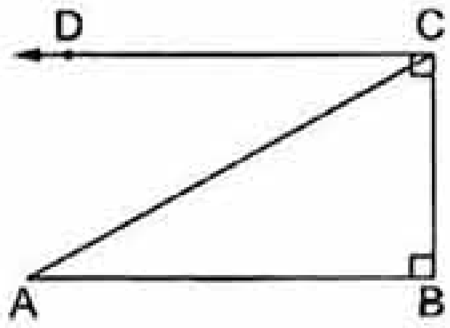
(15) 71 million , 354 thousand and 12 is written as ....

(16) 3 km. = ... m.

(17) The smallest number divisible by 2 , 3 and 5 is ....

(18) **In the opposite figure :**

$\overrightarrow{CD}$ // ....



(19) The smallest number formed from the digits
4 , 1 , 0 , 3 , 9 and 2 is ....

(20) The perimeter of the rectangle whose dimensions
are 6 cm. and 4 cm. =.............. cm.

3 Answer the following :

(21) ***Find the result of :***

[a] 879 156 – 498 068 = ...

[b] 294 ÷ 21 = ... (showing the steps)

(22) Find the area of a square whose perimeter is 20 cm.

The side length of the square = ... = ... cm.

The area of the square = ... = ... cm^2

(23) Find the H.C.F. of the numbers 24 and 40

....

....

(24) Eman bought 126 books , if the price of one book is L.E. 25
Find out the money that Eman paid.

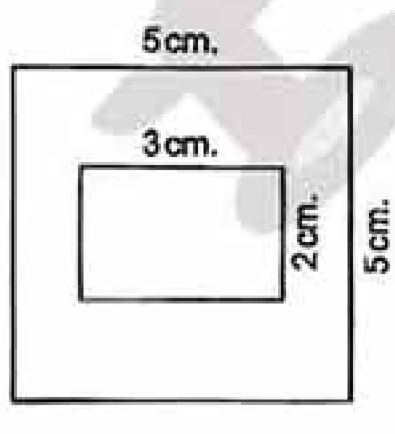
Eman paid = ... = L.E. ....

(25) ***Put the suitable relation (> , < or =) :***

[a] 3 407 805 + 3 592 195 .... 7 hundred thousand.

[b] 9 200 ÷ 4 .... 60 × 40

(26) Find the area of the shaded part.



....

....

(27) Find the L.C.M. of the two numbers 8 and 12

....

....

(28) Arrange the following numbers in an ascending order :

413 528 , 431 582 , 421 538 and 421 583

The order is : .... , ... , ... and ....

(29) Complete :

Δ ABC in which m ($\angle$ A) = 50 and m ($\angle$ B) = 70° , then m ($\angle$ C) = ...°

and the type of Δ ABC according to the measures of its angles is .... -angled triangle.

(30) Draw Δ ABC in which AB = 7 cm. ,

m ($\angle$ A) = 50° and m ($\angle$ B) = 70°

16 Kafr El-Sheikh Governorate

Maths Inspection

Answer the following questions :

1 Complete :

(1) The value of the digit 3 in the number 3 721 014 is ....

(2) A square of side length 3 cm. , then its perimeter = ... cm.

(3) The H.C.F. for the numbers 24 and 30 is ....

(4) 59 million , 42 thousand , 63 = ... (in digits)

(5) The measures of two angles of a triangle are 64° and 81° , then this triangle is .... -angled triangle.

(6) .... is the common multiple of all numbers.

2 Choose the correct answer :

(7) The number .... is divisible by both of 2 and 5

(72 *or* 25 *or* 233 *or* 300)

(8) The two perpendicular straight lines form 4 .... angles.

(acute *or* right *or* obtuse *or* straight)

(9) In the equilateral triangle , there are .... equal sides in length.

(2 *or* 3 *or* 0 *or* 4)

(10) 240 millions = ... thousands.

(240 *or* 24 000 *or* 240 000 *or* 24)

(11) .... is one of the factors of the number 8
(16 *or* 4 *or* 20 *or* 24)

(12) If the dimensions of a rectangle are 20 cm. and 15 cm.
, then its area = ... ($3\ mm^2$ *or* $3\ cm^2$ *or* $3\ dm^2$ *or* $3\ m^2$)

(13) The prime number between 6 and 10 is .... (9 *or* 8 *or* 7 *or* 5)

(14) The pentagon has .... sides. (4 *or* 5 *or* 6 *or* 7)

(15) 4×13 .... 3×17 ($>$ *or* $=$ *or* $<$ *or* $\leq$)

(16) The diagonals are perpendicular and equal in length in ....
(rectangle *or* rhombus *or* square *or* parallelogram)

(17) The smallest prime number is .... (0 *or* 1 *or* 2 *or* 3)

(18) $70 \times 20 = 14 \times$ .... (10 *or* 100 *or* 1 000 *or* 10 000)

(19) 6 000 m. = ... km. (6 000 *or* 600 *or* 60 *or* 6)

(20) The million is the smallest number formed from .... digits.
(3 *or* 4 *or* 7 *or* 9)

3 *Answer the following :*

(21) Find with steps the quotient : $3\overline{)3\ 654}$

(22) Find the L.C.M. for the numbers 12 and 16

12 = ...

16 = ...

L.C.M. = ...

(23) Draw Δ ABC in which AB = 5 cm. and m ($\angle$ A) = m ($\angle$ B) = 45°

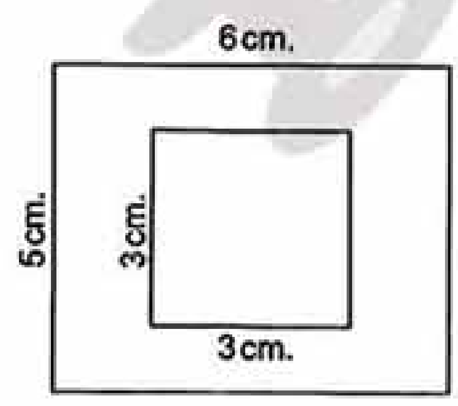
(24) *In the opposite figure :*

A square is drawn inside a rectangle.

Find the area of the shaded part.

....

....



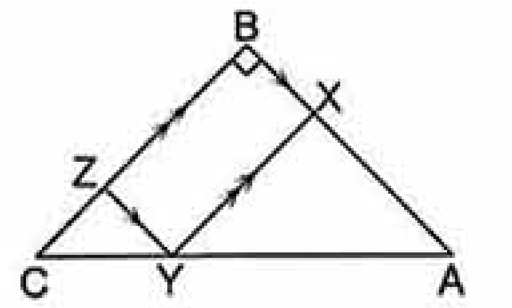
(25) 90 000 – 78 456 = ...

(26) A hotel contains 192 rooms divided equally by a number of floors , each floor contains 16 rooms. How many floors are there in this hotel ?

....

(27) 35 859 + 7 936 = ...

(28) ***In the opposite figure :***



[a] ***Put*** (⊥ ***or*** //) ***:***

(1) $\overleftrightarrow{AB}$ .... $\overleftrightarrow{BC}$

(2) $\overleftrightarrow{AB}$ .... $\overleftrightarrow{YZ}$

(3) $\overleftrightarrow{XY}$ .... $\overleftrightarrow{BA}$

[b] ***Complete :*** $\overleftrightarrow{AY}$ intersects with $\overleftrightarrow{BZ}$ at the point ....

(29) 123 × 15 = ...

(30) The dimensions of a rectangle are 90 cm. and 40 cm. If the area of the rectangle equals the area of a square , find the perimeter of the square.

....

....

17 El-Beheira Governorate

Bandr Damnhour Educational Zone
Maths Inspection

Answer the following questions :

1 Complete :

(1) 2 565 178 – one million = ...

(2) The number of the factors of the prime number is ....

(3) If the measure of two angles of a triangle are 62° and 81° , then this triangle is .... -angled triangle.

(4) 3 dm. = ... cm.

(5) The length of the side of the square whose perimeter is 36 cm. = ...

(6) 5 million , 75 thousand , 250 = ... (in digits)

2 Choose the correct answer :

(7) The milliard is the smallest number formed from .... digits.

(7 *or* 8 *or* 9 *or* 10)

(8) The perimeter of a square whose area is 36 cm.^{2} = ... cm.

(24 *or* 144 *or* 1 296 *or* 72)

(9) The number .... is a prime number. (15 *or* 17 *or* 24 *or* 10)

(10) .... is a common multiple for all numbers.

(zero *or* 1 *or* 10 *or* 100)

(11) The number of sides of any polygon doesn't equal the number of its .... (diagonals *or* angles *or* vertices)

(12) The number 15 is a common multiple for two numbers ....

(2 and 5 *or* 3 and 4 *or* 5 and 3 *or* 1 and 6)

(13) 7 251 309 + 748 691 = ...

(8 milliards *or* 8 millions *or* 8 thousands *or* 8 hundreds)

(14) The triangle whose lengths of its sides are 3 cm. , 7 cm. and 5 cm. is .... triangle. (scalene *or* equilateral *or* isosceles *or* right)

(15) The value of the digit 4 in the number 546 789 = ...

(400 *or* 40 000 *or* 400 000 *or* 4)

(16) A rectangle , its dimensions are 3 cm. and 7 cm. , then its perimeter = ... cm. (7 *or* 17 *or* 20 *or* 40)

(17) 32 605 108 .... 23 511 998 (> *or* < *or* = *or* ≤)

(18) .... is divisible by 2 and 3 (10 *or* 18 *or* 21 *or* 11)

(19) 90 thousands = ... tens. (90 *or* 900 *or* 9 000 *or* 90 000)

(20) The area of the rectangle whose dimensions are 7 cm. and 5 cm. = ... cm^2 (12 *or* 2 *or* 24 *or* 35)

---

3 *Answer the following :*

(21) 62 491 + 251 542 = ...

(22) Find the L.C.M. of the two numbers 24 and 18

....

....

(23) 167 × 39 = ...

(24) Find the H.C.F. of two numbers 28 and 14

....

....

(25) Draw the rectangle ABCD in which BC = 4 cm. and AB = 3 cm. Draw $\overline{AC}$ intersect $\overline{BD}$ at M

(26) 9 180 ÷ 45 = ...

(27) Nada bought 25 m. of cloth , the price of one metre is P.T. 475
How much money did Nada pay ?

....

(28) In the triangle ABC , if m (∠ A) = 67° and m (∠ B) = 33° Find : m (∠ C)

....

(29) In a school , if 798 pupils are distributed equally among 19 classes.
Find the number of pupils in each class.

....

(30) Draw Δ ABC where AB = 3 cm. ,
m (∠ B) = 90° and BC = 4 cm.
Find length of $\overline{AC}$

18 El-Fayoum Governorate

Directorate of Education
Maths Supervision

Answer the following questions :

1 Choose the correct answer :

(1) 6 million , 425 thousand and twelve is written as ....
(6 425 012 *or* 6 425 120 *or* 642 512 *or* 6 425 102)

(2) 6 000 ÷ 15 .... 3 000 ÷ 15 (> *or* = *or* <)

(3) The place value of the digit 2 in the number 2 080 701 is ....
(ten thousands *or* millions *or* ten millions *or* hundred thousands)

(4) $\frac{1}{4}$ million pounds = ... pounds.
(250 *or* 2 500 *or* 25 000 *or* 250 000)

(5) 32 is not divisible by .... (4 *or* 8 *or* 5 *or* 2)

(6) The common multiple of all numbers is ....
(0 *or* 1 *or* 2 *or* 3)

(7) The H.C.F. for the numbers 8 and 12 is ....
(8 *or* 12 *or* 4 *or* 2)

(8) 25 × 4 × 9 = ... (900 *or* 400 *or* 300 *or* 450)

(9) The L.C.M. of 2 and 4 is .... (2 *or* 4 *or* 6 *or* 8)

(10) The two intersecting lines make .... angles.
(0 *or* 4 *or* 2 *or* 3)

(11) The triangle whose side lengths are 6 cm. , 5 cm. and 6 cm. is .... triangle. (scalene *or* isosceles *or* equilateral)

(12) The sum of measures of interior angles of a triangle = ...

(180° *or* 60° *or* 120° *or* 100°)

(13) 3 m^2 = ... cm^2 (30 *or* 300 *or* 3 000 *or* 30 000)

(14) The perimeter of a rectangle whose dimensions are 6 cm. and 4 cm. is .... cm. (38 *or* 24 *or* 10 *or* 20)

2 *Complete each of the following :*

(15) 7 millions = ... thousands.

(16) .... is only even prime number.

(17) The million is the smallest number formed from .... digits.

(18) The measure of any angle of square equals ....°

(19) 80 cm. = ... mm.

(20) If the perimeter of a square is 16 cm. , then its side length = ... cm.

3 *Answer the following :*

(21) 25 219 + 4 786 = ...

(22) 7 689 324 – 2 millions = ...

(23) (300 ÷ 3) × 12 = ...

(24) 4 590 ÷ 45 = ...

(25) Arrange the following numbers in an ascending order :

4 001 769 , 4 170 069 , 4 031 769 and 4 millions

The order : .... , ... , ... and ....

(26) If 575 pupils in a school are distributed equally among 25 classes. Find the number of pupils in each class.

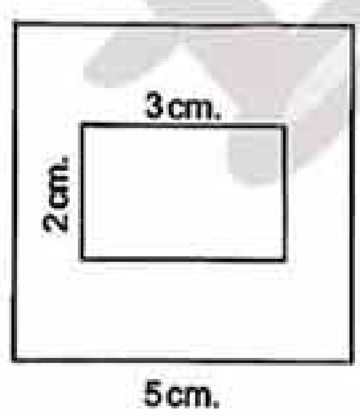
The number of pupils in each class = ...

(27) Find the perimeter of an equilateral triangle of side length 7 cm.

The perimeter of triangle = ...

(28) *In the opposite figure :*

Find the area of the shaded part , given that the outer shape is a square of side length 5 cm. and the inner shape is a rectangle of dimensions 3 cm. and 2 cm.



....

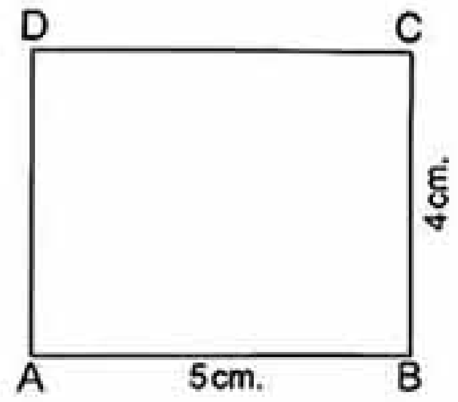
....

(29) ***In the opposite figure :***

ABCD is a rectangle , complete :

[a] AD = ... cm.

[b] $\overline{AB}$ // ....



(30) Draw triangle ABC in which

AB = 4 cm. , BC = 3 cm.

and m (∠ B) = 90°

19 Beni Suef Governorate

Maths Supervision

Answer the following questions :

1 ***Choose the correct answer :***

(1) 20 000 ÷ 4 .... 2 000 ÷ 4 (< *or* > *or* =)

(2) 999 .... 50 × 20 (< *or* > *or* =)

(3) All the .... numbers are divisible by 2 (odd *or* even *or* prime)

(4) The greatest number formed from 5 different digits is ....

(99 999 *or* 10 234 *or* 98 765)

(5) The number of factors of 12 is .... (3 *or* 4 *or* 6 *or* 12)

(6) The smallest prime number is .... (1 *or* 2 *or* 3 *or* 4)

(7) The two intersecting lines intersect at .... point.

(0 *or* 1 *or* 2 *or* 3)

(8) One milliard is the smallest number formed from .... digits.

(7 *or* 8 *or* 9 *or* 10)

(9) The measure of any angle of a square equals ....

(45° *or* 90° *or* 150° *or* 180°)

(10) 800 dm^2 .... 8 m^2 (< *or* > *or* =)

(11) The two perpendicular straight lines form 4 .... angles.

(acute *or* obtuse *or* right)

(12) The perimeter of a square its side length is 3 cm. is .... cm.

(4 *or* 8 *or* 12 *or* 16)

(13) 8 × 641 × 125 = ...

(46 100 *or* 64 100 *or* 641 000 *or* 461 000)

(14) One hundred thousand , three hundred and seventy-five is ....

(10 315 *or* 100 375 *or* 1 375 *or* 13 075)

2 Complete each of the following :

(1) A prime number has two factors that are .... and ....

(2) The factors of the number 10 are .... , ... , ... and ....

(3) The perimeter of a rectangle = (.............. + width) × ....

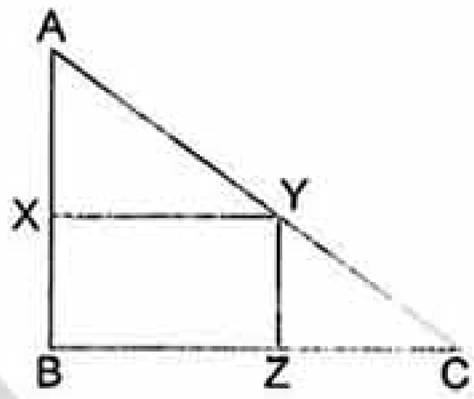
(4) 3 km. = ... m.

(5) The sum of measures of the interior angles of a triangle = ...

(6) The place value of the digit 4 in the number 3 567 409 is ....

3 Answer the questions :

(1) Notice the opposite figure , then put (⊥ or //) :



[a] $\overleftrightarrow{AB}$ .... $\overleftrightarrow{BC}$

[b] $\overleftrightarrow{AB}$ .... $\overleftrightarrow{YZ}$

(2) Draw the triangle XYZ in which XY = 5 cm. , m (∠ X) = 30° and m (∠ Y) = 90° , then find the type of this triangle according to its angles measures (..............)

(3) Find H.C.F. and L.C.M. for the two numbers 24 and 30

24		30	

24 = ...

30 = ...

H.C.F. = ...

L.C.M. = ...

(4) *Find the result of :*

[a] 7 423 856 – 5 018 378 = ...

[b] 4 803 × 62 = ...

[c] 2 525 ÷ 25 = ...

[d] 199 × 25 × 4 = ...

[e] 123 456 + 945 320 = ...

20 El-Menia Governorate

Directorate of Education
Menia Kawmia Language School

Answer the following questions :

Choose the correct answer :

(1) The smallest prime number is .... (2 *or* 1 *or* zero *or* 3)

(2) The triangle whose sides are equal in length is called ....
(isosceles *or* equilateral *or* scalene)

(3) One milliard is the smallest number formed from .... digits.
(11 *or* 9 *or* 10 *or* 8)

(4) The area of the rectangle whose dimensions are 5 cm. and 3 cm. is .... cm^2. (3 *or* 6 *or* 20 *or* 15)

(5) 6 m. = ... dm. (60 *or* 600 *or* 6 000 *or* 5)

(6) .... is divisible by 3 (123 *or* 50 *or* 278 *or* 119)

(7) 26 784 ÷ 2 ☐ 26 784 × 2 (< *or* > *or* =)

(8) Five million and 1 in digits is ....
(501 *or* 5 000 001 *or* 50 001 *or* 5 001)

(9) The value of the digit 4 in the number 5 467 813 is ....
(400 000 *or* 40 000 *or* 400 *or* 4)

(10) The two lines which cannot intersect are called ....
(perpendicular *or* intersection *or* parallel)

(11) The common factor of all numbers is ....
(1 *or* 2 *or* 3 *or* 4)

(12) The pentagon is a polygon with .... sides.
(1 *or* 3 *or* 4 *or* 5)

(13) The greatest number formed 4 , 1 , 2 , 5 , 3 and 9 is ....
(123 459 *or* 954 321 *or* 342 159 *or* 139 452)

(14) The sum of measures of the interior angles of any triangle = ...
(60° *or* 30° *or* 180° *or* 90°)

2 ***Complete each of the following :***

(15) The place value of 6 in the number 216 345 678 is ....

(16) The perimeter of the square = ... × ....

(17) The two diagonals are perpendicular in .... and ....

(18) The number of the factors of prime number is ....

(19) The only even prime number is ....

(20) The common multiple of all numbers is ....

3 ***Answer the following :***

(21) 2 525 ÷ 25 = ...

(22) 56 716 + 20 312 = ...

(23) 789 134 – 567 034 = ...

(24) 3 215 × 3 = ...

(25) Find H.C.F. of the numbers 16 and 24

....

....

(26) Hazem bought 26 books from the book fair of series animal world , if the price of one book is L.E. 725 Find out the money that Hazem paid.
Hazem paid = ...

(27) Draw Δ ABC in which AB = 5 cm.
, m (∠ A) = 60° and
m (∠ B) = 70° Find :
[a] m (∠ C)
[b] Type of this triangle according to the measures of its angles. (..............)

(28) Find the area of the square whose side length is 6 cm.

....

(29) Find L.C.M. of the numbers 18 and 12

....

....

(30) The perimeter of the rectangle whose dimensions are 7 cm. and 3 cm.

....

21 Assiut Governorate

Sedfa Educational Administration
F.A.T. Official Language School

Answer the following questions :

1 *Choose the correct answer :*

(1) The number .... is divisible by 2 and 3 (6 or 7 or 8)

(2) The length of the side of the square whose perimeter is 36 cm.
= .... cm. (5 or 3 or 9)

(3) L.C.M. for the numbers 7 and 3 is .... (21 or 24 or 30)

(4) 105 is divisible by .... (2 or 5 or 7)

(5) The million is the smallest number formed from .... digits.
(5 or 6 or 7)

(6) The sum of the measures of the interior angles of the triangle = ...
(170° or 180° or 160°)

(7) $\frac{1}{3}$ of a day = ... hours. (2 or 8 or 1)

(8) .... is a common factor for all the numbers. (1 or 2 or 3)

(9) The perimeter of the square whose side length is 3 cm. = ... cm.
(12 or 11 or 13)

(10) The area of the square whose side length is 5 cm. is .... cm^2.
(22 or 25 or 26)

(11) The smallest prime number is .... (2 or 3 or 4)

(12) If the perimeter of the square is 28 cm.
, then its side length = ... cm. (5 or 7 or 2)

(13) The smallest 10-digit number is ....
(million or thousand or milliard)

(14) L.C.M. for the numbers 3 and 5 is .... (14 or 12 or 15)

2 *Complete each of the following :*

(15) 4 km. = ... m.

(16) The greatest number formed from 0 , 3 , 2 , 5 , 1 and 6 is ....

(17) The value of the digit 5 in the number 5 612 816 is ....

(18) The diagonals are equal in length in .... and ....

(19) The smallest number formed the digits 5 , 8 , 4 , 7 and 0 is ....

(20) In a rectangle , each two opposite sides are .... in length.

(21) A rectangle , its dimensions are 3 cm. and 7 cm.
, then its perimeter = (............... + ...) × .... = ...

(22) 8 752 013 + 431 815 = ...

(23) 231 × 32 = ...

(24) 7 256 312 – 7 056 300 = ...

(25) 15 408 ÷ 36 = ...

(26) 30 000 , 40 000 , 50 000 , ... , ... (in same pattern)

3 Answer the following :

(27) A rectangle , its dimensions are 9 cm. and 3 cm. Find its area.
The area = ... × .... = ...

(28) Draw triangle ABC in which AB = 6 cm.
, m (∠ B) = 60° and BC = 4 cm.

(29) Find the area of the square whose side length is 3 cm.
The area = ... × .... = ...

(30) In a school , if 124 pupils are distributed equally among 4 classes.
Find the number of pupils in each class.
The numer of pupils = ... ÷ .... = ...

22 Souhag Governorate

Maths Supervision

Answer the following questions :

1 Choose the correct answer :

(1) The smallest prime number is .... (zero *or* 1 *or* 2)

(2) The number .... is divisible by each of 2 and 5
(72 *or* 100 *or* 25)

(3) The two perpendicular straight lines form four .... angles.
(acute *or* right *or* obtuse)

(4) 2 dm. = ... cm. (2 *or* 20 *or* 200)

(5) .... is a common multiple for all numbers. (0 *or* 1 *or* 5)

(6) The value of the digit 8 in the number 5 128 064 is ....

(8 000 *or* 80 000 *or* 800 000)

(7) The triangle whose side lengths are 3 cm. , 7 cm. and 5 cm. is .... triangle. (equilateral *or* isosceles *or* scalene)

(8) The sum of measures of the interior angles of the triangle is ....

(108° *or* 180° *or* 90°)

(9) The smallest number formed from the digits 4 , 1 , 0 , 3 , 2 and 9 is .... (123 490 *or* 943 210 *or* 102 349)

(10) 2 525 ÷ 25 = ... (11 *or* 101 *or* 100)

(11) The H.C.F. of the two numbers 4 and 8 is .... (4 *or* 8 *or* 2)

(12) $\frac{1}{2}$ of a day ☐ 4 hours. (> *or* = *or* <)

(13) 3 m^2 ☐ 30 000 cm^2 (> *or* = *or* <)

(14) 900 000 – 278 946 = ... (621 054 *or* 621 954 *or* 521 954)

2 *Complete each of the following :*

(1) 457 × 34 = ...

(2) 43 millions , 36 thousands and 7 = ... (in digits)

(3) .... is a common factor for all numbers.

(4) The perimeter of the rectangle whose dimensions are 12 cm. and 8 cm. is ....

(5) $\frac{1}{2}$ km^2 = ... m^2

(6) The L.C.M. of the two numbers 12 and 15 is ....

3 *Answer the following :*

(1) Arrange the following numbers in an ascending order :

2 778 136 , 2 561 748 , 2 900 374 and 2 547 216

The ascending order is : .... , ... , ... and ....

(2) Draw the square ABCD in which AB = 3 cm.

, then calculate its perimeter and its area.

The perimeter = ... = ...

The area = ... = ...

(3) Bassem bought 26 metres of cloth for L.E. 286

Find the price of the metre of the cloth.

The price of the metre of the cloth = ... = L.E. ....

(4) Find the H.C.F. and the L.C.M. of the two numbers 8 and 12

....

....

H.C.F. = ...

L.C.M. = ...

23 Aswan Governorate

Aswan Educational Directorate
Salam Private School

Answer the following questions :

1 *Choose the correct answer :*

(1) The million is the smallest number formed from .... digits.
(3 or 7 or 4)

(2) The digit which represents million in the number 46 835 714 is ....
(6 or 8 or 3)

(3) 50×40 = ... hundreds. (20 or 200 or 2 000)

(4) 805×100 = ... $\times 10$ (85 or 8 050 or 250)

(5) 280 tens .... 28 hundreds. (> or < or =)

(6) The value of the digit 8 in the number 587 627 is ....
(80 000 or 800 000 or 8 000)

(7) The number .... is divisible by 5 (495 or 594 or 54)

(8) The diagonals are equal in length in ....
(square and rectangle or parallelogram and rectangle or rectangle and rhombus or square and rhombus)

(9) The place value of the digit 5 in the number 5 612 816 is ....
(thousands or millions or tens or hundred thousands)

(10) .... is a common multiple for all numbers.
(zero or 1 or 10 or 100)

(11) The milliard is the smallest number formed from .... digits.
(7 or 8 or 9 or 10)

(12) The perimeter of a square whose area is 36 cm^2 is .... cm.

(24 *or* 144 *or* 1 296 *or* 72)

(13) A rectangle , its dimensions are 3 cm. and 7 cm. , then its perimeter = ... cm. (7 *or* 17 *or* 20 *or* 40)

(14) The triangle whose lengths of its sides are 3 cm. , 7 cm. and 5 cm. is ....

(scalene triangle *or* equilateral triangle *or* isosceles triangle)

2 *Complete each of the following :*

(1) The smallest different 6-digit number is ....

(2) The prime number that lies between 6 and 10 is ....

(3) The number whose prime factors are 2 , 3 and 5 is ....

(4) The two diagonals are equal in length in .... and ....

(5) H.C.F. of two numbers 12 and 16 equals ....

(6) The sum of the measures of the interior angles of a triangle is ....

3 *Answer the following :*

(1) Factorize the number 120 to its prime factors.

....

(2) Find L.C.M. and H.C.F. for the numbers 12 and 15

....

(3) Find the greatest and the smallest number using the following digits : 7 , 0 , 2 , 5 , 9 and 4

....

(4) Eman bought 24 metres of cloth for L.E. 648 Find the price of one metre.

....

(5) Draw Δ ABC in which AC = 7 cm.
, m (∠ A) = 45° and m (∠ C) = 75°
Find m (∠ B) , then write the type of the triangle according to the measures of its angles.

....

....

(6) The perimeter of a square is 32 cm. , find its area.

....

(7) Hazem bought 26 books from the book fair of series animal world , if the price of one book is P.T. 725 Find out the money that Hazem paid.

....

(8) A rectangle , its dimensions are 9 cm. and 12 cm. Find its area.

....

(9) Find the result of : 17 620 + 5 356 = ...

(10) Draw the rectangle ABCD in which BC = 4 cm. and AB = 3 cm.
Draw $\overline{AC}$ intersects $\overline{BD}$ at M

24 South Sinai Governorate

Tur Sinai Educational Directorate
Maths Inspection

Answer the following questions :

1 *Choose the correct answer :*

(1) The place value of the digit 5 in the number 5 612 816 is ....
(thousands ***or*** millions ***or*** tens ***or*** hundred thousands)

(2) 63 millions , 152 thousands , 254 is written in digits as ....
(630 152 254 ***or*** 2 545 263 ***or*** 63 152 254 ***or*** 15 225 463)

(3) L.C.M. of the two numbers 20 and 12 is ....
(2 ***or*** 4 ***or*** 30 ***or*** 60)

(4) The number .... is divisible by 3 (28 ***or*** 13 ***or*** 17 ***or*** 24)

(5) $25 \times 7 \times 4 =$ .... (36 ***or*** 700 ***or*** 179 ***or*** 2 825)

(6) The value of the digit 4 in the number 546 789 is ....
(40 000 ***or*** 4 000 ***or*** 400 ***or*** 40)

(7) The triangle whose side lengths are 6 cm. , 3 cm. and 6 cm. is .... triangle. (a scalene ***or*** an equilateral ***or*** an isosceles)

(8) The two diagonals are equal in length in ....

(square and rectangle *or* parallelogram and rectangle *or* rectangle and rhombus *or* square and rhombus)

(9) The geometric figure that has four sides are equal in length is ....

(trapezium *or* rectangle *or* rhombus *or* parallelogram)

(10) The two dimensions of a rectangle are 3 cm. and 7 cm. , then its perimeter is .... cm. (7 *or* 20 *or* 21 *or* 73)

(11) The area of the square whose side length is 3 cm. = ... cm^2.

(3 *or* 6 *or* 9 *or* 12)

(12) All even numbers are divisible by .... (2 *or* 3 *or* 4 *or* 5)

(13) The number of factors of the prime number is ....

(1 *or* 2 *or* 3 *or* 4)

(14) 350 tens .... 53 hundreds. (< *or* > *or* =)

2 ***Complete each of the following :***

(1) The smallest number formed from 7 digits is ....

(2) In the rectangle , every two opposite sides are .... in length.

(3) The perimeter of the square = side length × ....

(4) 3 cm. = ... mm.

(5) The smallest prime number is ....

(6) When dividing a number by another number , then the first number is called .... and the second number is called ....

3 ***Answer the following :***

(1) ***Find the result of each of the following :***

[a] 8 752 013 + 439 815 = ...

[b] 893 756 – 431 877 = ...

[c] 267 × 18 = ...

[d] 70 070 ÷ 35 = ...

(2) A factory produced fertilizer in a year 450 thousands tons and in the next year produced 642 thousands tons. Find the sum of production in the two years.

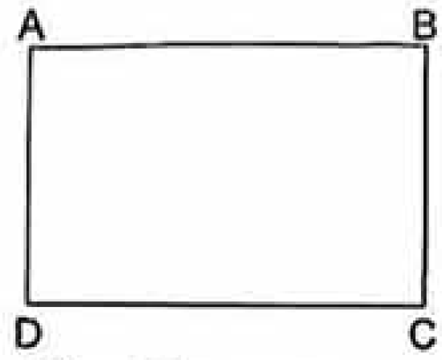
The sum of production in the two years = ...

(3) Find H.C.F. of the two numbers 6 and 8

H.C.F = ...

(4) ***In the opposite figure :***

Draw its diagonals.



(5) A rectangle , its two dimensions are 9 cm. and 12 cm. Find its area.

The area of the rectangle = ...

(6) Find the side length of the square whose perimeter is 16 cm.

The side length of the square = ...

(7) Draw the triangle ABC in which AC = 6 cm. , m (∠ A) = 40° , m (∠ C) = 60°

State the type of the triangle according to the measures of its angles (....).

25 Matrouh Governorate

Directorate of Education
Maths Supervision

Answer the following questions :

1 ***Choose the correct answer :***

(1) 150 thousands = ...

(150 tens *or* 15 thousands *or* 1 500 hundreds)

(2) The value of the digit 8 in the number 587 627 is ....

(80 000 *or* 800 000 *or* 8 000)

(3) 70 × 20 = 14 × .... (10 *or* 100 *or* 1 000)

(4) The numbers 1 , 5 and 7 are .... (even *or* odd *or* prime)

(5) 5 millions .... 500 000 (< *or* > *or* =)

(6) 7 251 309 + 748 691 = ...

(8 millions *or* 8 milliards *or* 8 thousands)

(7) 5 000 000 – 324 067 = ...

(95 324 076 *or* 91 675 933 *or* 4675 933)

(8) The number 2 105 is divisible by .... (2 *or* 3 *or* 4 *or* 5)

(9) The L.C.M. of 15 and 35 = ... (15 *or* 105 *or* 35 *or* 5)

(10) If Δ XYZ in which m (∠ X) = 40° and m (∠ Y) = 30° , then Δ XYZ is ....

(acute-angled triangle *or* right-angled triangle *or* obtuse-angled triangle)

(11) If 45 × 13 = 585 , then 589 = 45 × 13 + ...

(zero *or* 1 *or* 4 *or* 6)

(12) If the perimeter of a square is 28 cm. , then its side length is .... cm.

(7 *or* 14 *or* 4 *or* 12)

(13) Ten million , five hundred seventy-two thousand = ...

(10 507 200 *or* 10 510 072 *or* 10 572 000)

(14) The number .... is the common multiple of all numbers.

(0 *or* 2 *or* 3 *or* 1)

2 *Complete each of the following :*

(1) The smallest 7-digit number is ....

(2) H.C.F. of two numbers 12 and 16 equals ....

(3) The value of the digit 4 in the number 5 467 813 is ....

(4) The sum of the measures of the interior angles of a triangle is ....

(5) 3 km. = ... m.

(6) The multiples of the number 6 that included between 30 and 45 are ....

3 *Answer the following :*

(1) ***Find the result of the following :***

[a] 700 ÷ 35 = ...

[b] 120 × 15 = ...

[c] 90 000 – 78 456 = ...

[d] 35 859 + 7 936 = ...

(2) Reda bought a TV set by L.E. 4 420 , he paid L.E. 500 in cash , then he paid the rest in 28 equal instalments. Find the value of each instalment.

The rest = ... – .... = ...

The value of instalment = ... ÷ .... = ...

(3) Find the greatest and the smallest number using the following digits : 7 , 0 , 2 , 5 , 9 and 4 , then calculate the difference between them.

The greatest number = ...

The smallest number = ...

The difference between them = ... = ...

(4) Eman bought 24 metres of cloth for L.E. 648 Find the price of one metre.

The price of one metre = ...

(5) Draw Δ ABC in which AB = 5 cm. , BC = 4 cm. and m ($\angle$ B) = 60° , then by using the ruler find the length of $\overline{AC}$



FINAL EXAMINATIONS

- *Model Examinations of the School Book*
  (3 models + model examination for the special needs students)
- *25 Schools' Examinations from Different Governorates 2020*

Model Examinations of the School Book

Model 1

Answer the following questions :

1 Choose the correct answer :

(1) $\frac{1}{4}$ million pound = ... pounds

(2 500 or 25 000 or 250 000 or 500 000)

(2) The value of the digit 7 in the number 27 351 is ....

(7 or 70 or 7 000 or 70 000)

(3) Milliard is the smallest number that formed from .... digits.

(7 or 8 or 9 or 10)

(4) 505 m^2 ☐ $\frac{1}{2}$ km^2 (> or < or =)

(5) The H.C.F. for the two numbers 2 and 4 is .... (2 or 4 or 6 or 8)

(6) The L.C.M. for the two numbers 3 and 6 is ....

(3 or 6 or 9 or 18)

(7) The number .... is divisible by 2 , 3 and 5

(6 or 10 or 15 or 30)

(8) Three million , three thousand and three = ...

(3 030 003 or 303 003 or 3 003 003 or 3 003 300)

(9) The smallest prime number is .... (0 or 1 or 2 or 3)

(10) One million and one hundred thousand ☐ 1 000 100

(> or < or =)

(11) The sum of the measures of the interior angles of a triangle = ...°

(90 or 120 or 180 or 360)

(12) The two diagonals are equal in length in each of ....

(the square and the rhombus or the square and the rectangle or the rectangle and the parallelogram)

(13) The perimeter of a square of side length 4 cm. ☐ the perimeter of a rectangle whose dimensions are 5 cm. and 3 cm. (< or > or =)

(14) 99 999 + 1 = ...

(99 990 or 999 900 or 100 000 or 1 000 000)

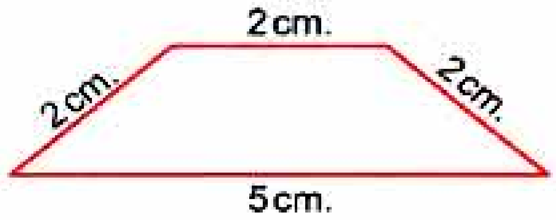
2 Complete :

(15) The number whose prime factors are 2 , 5 and 7 is ....

(16) $50 \times 600 =$ ....

(17) If the perimeter of a square is 36 cm. , then its side length is .... cm.

(18) The perimeter of the opposite figure = ... cm.



(19) L.C.M. of the two numbers 5 and 10 is ....

(20) $25 \times 7 \times 4 =$ ....

(21) **In the opposite figure :**
ABCD is a rectangle , then
$\overline{AB}$ .... $\overline{BC}$ (// or ⊥)



(22) In $\triangle$ ABC , if m ($\angle$ A) = 60° , m ($\angle$ B) = 30°
, then m ($\angle$ C) = ...°

3 Answer the following :

(23) Calculate the H.C.F. for the two numbers 24 and 40

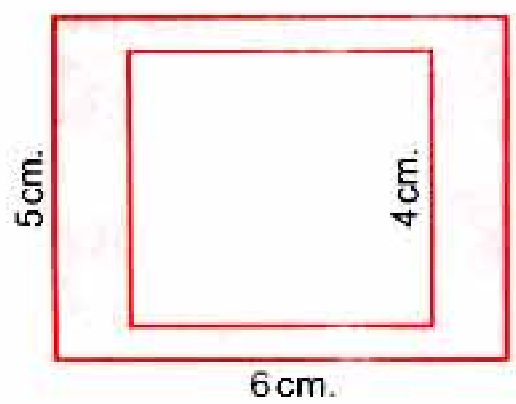
....

....

(24) A hotel contains 180 rooms divided equally among a number of floors , each floor contains 15 rooms , how many floors are there in this hotel ?
The number of floors = ... = ...

(25) Draw the triangle ABC in which AB = 5 cm. , m ($\angle$ A) = 40° and m ($\angle$ B) = 50°
Calculate m ($\angle$ C) , what is the type of the triangle ABC with respect to the measures of its angles ?

(26) The opposite figure represents a rectangle whose dimensions are 6 cm. and 5 cm. with a square of side length 4 cm. inside it.
Find the area of the shaded part.



....

....

....

Model 2

Answer the following questions :

1 Choose the correct answer :

(1) $\frac{1}{4}$ million pound is written in digits as .... pounds.

(250 *or* 2 500 *or* 25 000 *or* 250 000)

(2) The place value of the digit 3 in the number 736 542 is ....

(thousands *or* ten thousands *or* hundred thousands *or* millions)

(3) The perimeter of a square is 32 cm. , then its area = ... cm^2

(8 *or* 16 *or* 40 *or* 64)

(4) The prime number just comes after the following number 17 is ....

(18 *or* 19 *or* 20 *or* 23)

(5) 660 ÷ 5 ☐ 660 ÷ 4

(< *or* = *or* >)

(6) 7 m^2 ☐ 7 000 cm^2

(> *or* < *or* =)

(7) The number 12 is the L.C.M. for 3 and ....

(4 *or* 9 *or* 15 *or* 36)

(8) The triangle whose lengths of its sides are 6 cm. , 4 cm. and 6 cm. is ....

(scalene *or* isosceles *or* equilateral)

(9) 71 million , 425 thousand and 12 is written as ....

(71 124 350 *or* 71 425 012 *or* 71 043 512 *or* 71 435 120)

(10) The nearest number of the result of : 7 815 100 + 1 475 987 is ....

(9 million *or* milliard *or* 900 thousand *or* 990 million)

(11) The sum of the measures of the interior angles of a triangle is ....°

(90 *or* 120 *or* 180 *or* 100)

(12) The number .... is divisible by 2 and 3

(10 *or* 14 *or* 18 *or* 21)

(13) 25 × 7 × 4 = ...

(53 *or* 70 *or* 179 *or* 700)

(14) The H.C.F. for the 8 and 12 is ....

(4 *or* 8 *or* 24 *or* 96)

2 Complete :

(15) The quadrilateral in which only two sides are parallel is called ....

(16) 15 dm. = ... cm.

(17) 2 565 178 – one million = ...

(18) 90 000 cm^2 = ... m^2

(19) If the perimeter of a traignel is 16 cm. and the lengths of two sides of it are 4 cm. and 7 cm. , then the length of the third side = ... cm.

(20) .... is the common multiple for all the numbers.

(21) The highest common factor of the two numbers is 3 and 6 is ....

(22) 70 × 20 = 14 × ....

3 **Answer the following :**

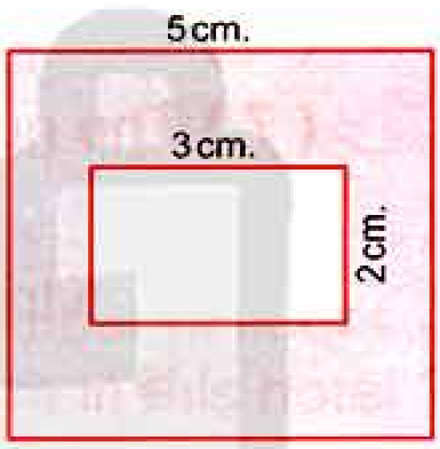
(23) Reda bought a P.C for L.E. 3 500 , he paid 500 pounds in cash , then he paid the rest in 25 equal instalments , find the value of each instalment.

The rest = ...

The value of each instalment = ...

(24) **In the opposite figure :**

Find the area of the shaded part , the outer shape is square of side length 5 cm. and the inner shape is a rectangle of dimensions 3 cm. and 2 cm.



....

....

....

(25) Draw Δ XYZ in which XY = 5 cm. , m (∠ X) = m (∠ Y) = 45°

[a] Calculate m (∠ Z) (without measuring).

[b] What is the type of Δ XYZ according to the measures of its angles ?

(26) Calculate H.C.F. and L.C.M. of 12 and 24

....

....

....

....

Model 3

Answer the following questions :

1 Choose the correct answer :

(1) 150 thousands = ...
(150 tens or 15 thousands or 1 500 hundreds or 1 500 000)

(2) The digit which represents million in the number 78 201 654 is ....
(2 or 6 or 8 or 7)

(3) The number which its prime factors are 2 , 2 and 3 ☐ the number which its prime factors are 2 , 3 and 3
(< or > or =)

(4) The measure of any angle of the square = ...°
(30 or 60 or 45 or 90)

(5) The smallest prime number is .... (zero or 1 or 2 or 3)

(6) If the perimeter of an equilateral triangle = 12 cm. , then the length of its side = ... cm. (3 or 4 or 5 or 6)

(7) 6 254 117 = 254 117 + ...
(6 000 or 60 000 or 600 000 or 6 000 000)

(8) The diagonals of a rhombus are ....
(equal in length and not perpendicular or perpendicular but not equal in length or equal in length and perpendicular)

(9) The number which is nearest to the result of : (3 910 051 + 5 200 402) is ....
(9 thousand or 900 thousand or 9 million or milliard)

(10) The place value of the digit 3 in the number 736 542 is ....
(thousands or ten thousands or hundred thousands)

(11) 54 is divisible by .... (4 or 6 or 7 or 8)

(12) The lowest common multiple for the numbers 8 and 16 is ....
(8 or 16 or 32 or 24)

(13) 7 070 ÷ 35 = ... (11 or 22 or 220 or 202)

(14) The side length of a square of area 36 cm^2 ☐ the side length of a square of perimeter 20 cm.
(< or > or =)

2 Complete :

(15) 32 million , 8 thousand and 15 is written in digits as ....

(16) $3\frac{1}{2}$ km. = ... m.

(17) The factors of 50 are ....

(18) The sum of the measures of the interior angles of a triangle = ...°

(19) 8 × 765 × 125 = ...

(20) The L.C.M. for the two numbers 2 and 4 is ....

(21) If the dimensions of a rectangle are 5 cm. and 3 cm. , then its perimeter = ... cm.

(22) An equilateral triangle , the lengths of two sides of it are 6 cm. and 6 cm. , then the length of the third side = ... cm.

3 Answer the following :

(23) H.C.F. for the two numbers 8 and 16 = ...

(24) Arrange the following numbers in an ascending order :

861 542 , 681 542 , 156 842 , 865 421 and 685 421

The order is : .... , ... , ... , ... and ....

(25) Draw Δ ABC in which AB = 7 cm. ,
m (∠ A) = 45° and m (∠ B) = 75°

[a] Find : m (∠ C)

[b] Write the type of the triangle according to the measures of its angles. (..............)

(26) In the opposite figure :

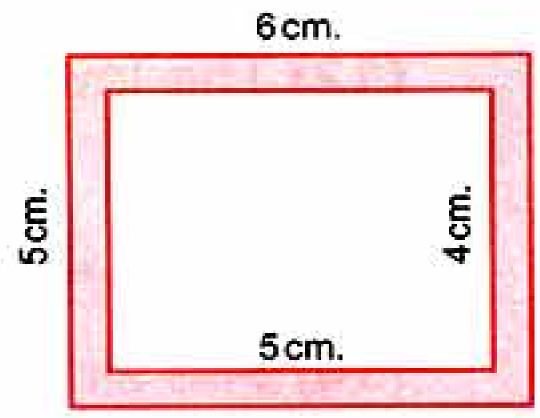
Find the area of the shaded part.

....

....

....

....



Model examination for the special needs students

Answer the following questions :

1 Choose the correct answer :

(1) $\frac{1}{2}$ of a day = ... hours (4 or 6 or 12)

(2) 3 million , 57 thousand and 9 is written as ....
(357 009 or 3 057 009 or 3 579)

(3) The H.C.F. for the two numbers 2 and 4 is .... (2 or 4 or 8)

(4) The L.C.M. for the two numbers 3 and 6 is .... (3 or 6 or 18)

(5) The number 105 is divisible by 5 and .... (2 or 3 or 4)

(6) The sum of the measures of the interior angles of a triangle = ...°
(90 or 108 or 180)

(7) The perimeter of a square of side length 5 cm. .... the perimeter of an equilateral triangle of side length 5 cm. (> or < or =)

(8) ABC is a triangle , m (∠ A) = 100° , this the triangle is ....
(an obtuse-angled triangle or a right-angled triangle or an a cute-angled triangle)

(9) 40 000 ÷ 40 = ... (100 or 1 000 or 10 000)

(10) 1 m^2 = ... dm^2 (10 or 100 or 10 000)

2 Complete each of the following using the given answers :

(1 001 211 , 5 , rhombus , 4 , rectangle , 988 895)

(11) 587 692 + 401 203 = ...

(12) 9 806 735 – 8 805 524 = ...

(13) The prime number just before 7 is ....

(14) The diagonals are equal in length in ....

(15) .... × 25 = 100

3 **Join from the column (A) to the suitable from the column (B) :**

(A)	(B)
(16) The value of the digit 5 in the number 351 639 is	100 000
(17) 5 000 ÷ 10 = ...	500
(18) 99 999 + 1 = ...	50 000
(19) The number whose prime factors are 2 , 3 and 5 is	10
(20) A rectangle whose dimensions are 2 cm. and 3 cm. , its perimeter = ... cm.	30

Some Schools' Examinations from Different Governorates

1 Cairo Governorate

Heliopolis Educational Zone
St. Joseph's School

تفوقك في أي عمل عليه العلامة دي

Answer the following questions :

1 Choose the correct answer :

(1) The number hundred million has .... digits.
(7 or 8 or 9 or 10)

(2) The area of the rectangle of dimensions 5 cm. and 3 cm. = ... cm^2.
(8 or 15 or 16 or 30)

(3) 80 × 40 .... 3 thousands. (< or > or =)

(4) The place value of the digit .... in the number 365 428 901 is millions. (3 or 6 or 5 or 4)

(5) The suitable unit of measuring the length of the playground of the school is ....
(millimetre or centimetre or metre or kilometre)

(6) The number .... has 3 factors. (3 or 6 or 26 or 49)

(7) The number .... is not a prime number.
(31 or 41 or 51 or 61)

(8) In Δ XYZ , if XY = XZ = YZ is .... triangle.
an equilateral or an isosceles or a scalene)

(9) The number .... is divisible by 2 , 3 and 5
(235 or 305 or 320 or 30)

(10) 30 m. = ... dm. (3 or 40 or 300 or 3 000)

(11) The area of a square is 100 cm^2 , then its side length = ... cm.
(10 or 25 or 40 or 50)

(12) 32 × 11 = ... (32 or 252 or 64 or 352)

(13) The numbers 1 , 5 and 7 are ....
(prime or even or odd or factors of 7)

(14) 360 ÷ 5 .... 360 ÷ 4 (< or > or =)

2 Complete :

(1) The sum of the factors of the number 7 is ....

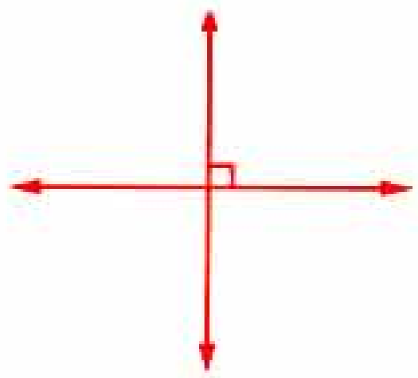
(2) In Δ ABC , if m (∠ A) + m (∠ B) = 100° , then m (∠ C) = ...°

(3) The measure of each angle of the rectangle is ....°

(4) The number 3 million , 25 thousand and 5 in digits is ....

(5) The factors of 10 are ....

(6) The two straight lines in the given figure are ....



(7) 2 412 ÷ 12 = ...

(8) 25 645 + one million = ...

3 Answer the following question :

(1) [a] **Factorize** : 16 and 24 to their prime factors.

16 = ...

24 = ...

[b] **Find** : The H.C.F. of 16 and 24

[c] **Find** : The L.C.M. of 16 and 24

(2) A man had 450 500 pounds , he bought a car for 49 500 pounds. How much money left with him ?

....

(3) Darw Δ ABC in which

AB = 5 cm. , m (∠ A) = 40°

and m (∠ B) = 70°

(4) **Which is greater in perimeter :**

A rectangle of dimensions 10 cm. and 6 cm. or a square of side length 9 cm. ? why ?

....

....

....

2 Cairo Governorate

Maadi Educational Directorate
Victory College Maadi

Answer the following questions :

1 Choose the correct answer :

(1) The number 237 is divisible by .... (2 or 3 or 5 or 7)

(2) The number .... is a prime number. (15 or 21 or 17 or 25)

(3) The number 9 has .... factors. (2 or 3 or 4 or 5)

(4) The triangle whose side lengths are 5 cm. , 5 cm. and 5 cm. is ....
(scalene or isosceles or equilateral)

(5) 2 dm. = ... cm. (2 or 20 or 200 or 2 000)

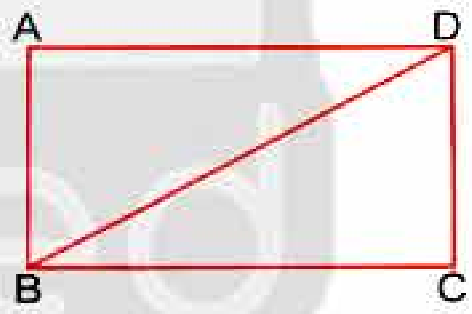
(6) The value of the digit 4 in the number 5 427 009 is ....
(4 000 000 or 400 000 or 40 000 or 4 000)

(7) 40 × 7 .... 280 (> or < or = or ≠)

2 Choose the correct answer :

(1) The number .... is one of the factors of 8
(0 or 8 or 16 or 24)

(2) **In the opposite figure :**
ABCD is a rectangle
, then $\overline{AD}$ // ....



($\overline{BD}$ or $\overline{BC}$ or $\overline{CD}$ or $\overline{AB}$)

(3) The H.C.F. of 12 and 20 = ... (2 or 4 or 15 or 60)

(4) The measure of right angle = ...° (90 or 180 or 60 or 80)

(5) One milliard is the smallest number formed from .... digits.
(6 or 9 or 10 or 12)

(6) The L.C.M. of 6 and 8 = ... (2 or 6 or 8 or 24)

(7) 16 × 7 = ... (211 or 112 or 122 or 221)

3 Complete :

(1) 8 429 815 + 754 013 = ...

(2) 5 million , 250 thousand and 75 (in digits) = ...

(3) The perimeter of a rectangle whose dimensions are 7 cm. and 3 cm. = ... cm.

(4) The smallest number formed from the digits 7 , 0 , 2 , 5 , 9 and 4 is ....

(5) 4 km. = ... m.

(6) 900 000 – 245 946 = ...

(7) 800 dm^2 = ... m^2

(8) The triangle whose measures of its angles are 50° , 60° and 70° is called ....-angled triangle.

4 **[a] Find the result of :**

552 ÷ 23 = ...

[b] Find the perimeter and the area of square whose side length is 6 cm.

The perimeter = ...

The area = ...

5 **[a]** Laila bought 26 metres of cloth , if the price of one metre is L.E. 215 How much money did she pay ?

....

[b] Draw the triangle ABC in which AB = 3 cm. , m (∠ B) = 90° and BC = 4 cm.
Find the length of $\overline{AC}$

3 Cairo Governorate

East Naser City Educational Zone
Al-Ahram Language School

Answer the following questions :

1 **Choose the correct answer :**

(1) One hundred sixty thousand , seven hundred and forty = ...

(160 714 *or* 160 740 *or* 160 074)

(2) The two parallel lines intersects at ....

(two points *or* zero points *or* one point)

(3) All angles of the rectangle are .... angle.
(acute or right or obtuse)

(4) The greatest 8-digit number is ....
(88 888 888 or 10 000 000 or 99 999 999)

(5) The number which is divisible by 5 is .... (57 or 52 or 30)

(6) The perimeter of the square whose side length is 3 cm. is .... cm.
(6 or 30 or 12 or 9)

(7) 71 millions , 425 thousands , 12 is written as ....
(7 142 512 or 71 425 012 or 714 25 120)

(8) The smallest prime number is .... (0 or 1 or 2 or 3)

(9) 6 254 117 = 254 117 + ...
(6 000 or 60 000 or 600 000 or 6 000 000)

(10) 7 070 ÷ 35 = ... (11 or 22 or 220 or 202)

(11) The number .... is divisible by 2 and 3
(10 or 14 or 18 or 21)

(12) The value of the digit 7 in the number 27 935 is ....
(7 or 70 or 7 000 or 70 000)

(13) The sum of measure of the interior angles of any triangle is = ... °
(90 or 120 or 180 or 360)

(14) The H.C.F. for 8 and 12 is .... (4 or 8 or 24 or 96)

2 **Complete :**

(1) The greatest seven digit number is ....
(2) The smallest 6-digit number formed from 9 , 8 , 0 , 7 , 2 , 1 ....
(3) 4 kilometres = ... metres.
(4) 9 045 ÷ 45 = ...
(5) The value of the digit 6 in the number 67 420 034 is ....
(6) The perimeter of square of side length = 6 cm. is .... cm.
(7) 150 thousands = ...
(8) 7 235 × 25 = ...

3 For the numbers 8 , 10 , find H.C.F. and L.C.M.

8 = ...
10 = ...
H.C.F. = ...
L.C.M. = ...

4 **[a]** **Arrange the following in an ascending order :**

9 530 184 , 1 603 782 , 5 211 701 and 4 715 186

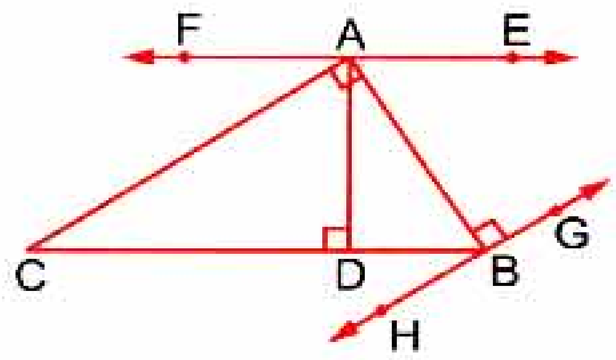
The order is : .... , ... , ... and ....

[b] Sara has L.E. 9 365 167 and her mother has L.E. 17 449 342

Find the difference between them.

The difference = ...

5 **[a]** **Complete by using (// or ⊥) :**



(1) $\overleftrightarrow{AC}$ .... $\overleftrightarrow{AB}$

(2) $\overleftrightarrow{AE}$ .... $\overleftrightarrow{BC}$

[b] Draw square ABCD whose side length is 5 cm.

, then find the perimeter ?

4 Cairo Governorate

Rod El-Farag Educational Zone
St. Mary's School

Answer the following questions :

1 **Choose the correct answer :**

(1) 5 km. = ... metres. (500 *or* 5 000 *or* 50 000 *or* 500 000)

(2) The lowest common multiple for the numbers 8 and 16 is ....

(8 *or* 16 *or* 24 *or* 32)

(3) The diagonals in the rectangle are ....

(not equal in length *or* equal in length *or* parallel *or* perpendicular)

(4) 40 × 30 .... 3 600 ÷ 3 (> *or* = *or* < *or* otherwise)

(5) The perimeter of the rectangle whose dimensions are 8 cm. , 6 cm. is .... cm. (7 or 14 or 28 or 20)

(6) (5 000 ÷ 50) × 876 = ...
(8 760 or 78 600 or 87 600 or 67 800)

(7) The place value of the digit 3 in the number 236 541 is ....
(thousands or ten thousands or hundred thousands or millions)

(8) The sum of measures of the interior angles of the triangle = ...
(60° or 90° or 120° or 180°)

(9) The prime number just comes after to the following number 17 is .... (18 or 19 or 20 or 23)

(10) Ten millions , five hundred seventy two thousands = ...
(10 507 200 or 10 510 072 or 105 721 or 10 572 000)

(11) If the angle between two straight lines is equal to 90° , then the straight lines are .... (parallel or perpendicular or intersection and not perpendicular or coincedent)

(12) The .... has five sides.
(octagon or pentagon or hexagon or quadrilateral)

(13) One million and hundred thousand 100 000
(> or = or < or otherwise)

(14) The perimeter of a square of side length 4 cm. .... the perimeter of an equilateral triangle of side length 4 cm.
(> or = or < or otherwise)

2 Complete the following :

(15) 9 806 735 – 8 805 524 = ...

(16) The smallest number formed from the digits 5 , 8 , 4 , 7 , 0 , 2 , 3 is ....

(17) If 458 × 29 = 13 282 , then 13 282 ÷ 29 = ...

(18) 587 692 + 401 203 = ...

(19) 3 m^2 = ... dm^2

(20) If the perimeter of an equilareral triangle = 12 cm. , then the length of its side = ... cm.

(21) 2 milliards = ...

(22) 8 × 125 × 765 = ...

3 Answer the following :

(23) Find H.C.F , L.C.M. for 24 and 30

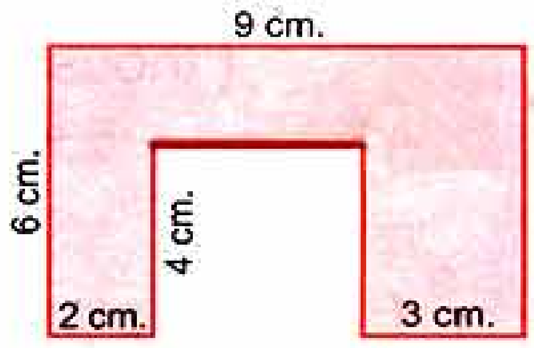
....

....

(24) In a school , if 756 pupils are distributed equally among 18 classes. Find the number of pupils in each class.

....

(25) The opposite figure is a rectangle whose dimensions are 9 cm. and 6 cm. A square of side length 4 cm. is cut from it.



Calculate :

[a] The area of the remaining part.

[b] The perimeter of the remaining part.

....

....

....

....

(26) Draw Δ ABC in which AB = 7 cm.

, m ($\angle$ A) = m ($\angle$ B) = 75°

Find : m ($\angle$ C) and the length $\overline{AC}$

5 Giza Governorate

El-Haram Educational Zone
Al-Mostakbal Modern Language School

Answer the following questions :

1 Choose the correct answer :

(1) The smallest prime number is .... (3 or 1 or 2 or 0)

(2) The L.C.M. of 2 and 4 is .... (8 or 2 or 4 or 16)

(3) 762 594 – 153 037 = ...

(611563 or 609 557 or 600 657 or 611 567)

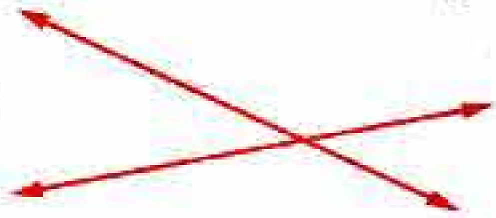
(4) The common multiple of all numbers is ....

(0 or 1 or 2 or 3)

(5) 505 ÷ 5 = ... (101 or 11 or 110 or 55)

(6) One milliard is the smallest number formed from .... digits.
(6 or 9 or 7 or 10)

(7) The number .... is divisible by 2 (23 or 125 or 336 or 259)

(8) Two straight lines  are ....

(parallel or perpendicular or intersecting)

(9) Number of sides of hexagon is .... (6 or 5 or 7 or 8)

(10) The perimeter of the rectangle whose dimensions are 7 cm. and 3 cm. = ... cm. (7 or 10 or 20 or 21)

(11) Any triangle has at least .... acute angles. (3 or 2 or 1 or 0)

(12) The measure of the straight angle ☐ the sum of measures of the interior angles of a triangle. (< or = or >)

(13) The triangle whose side lengths are 6 cm. , 3 cm. and 6 cm. is .... triangle.
(a scalene or an isosceles or an equilateral or an obtuse-angled)

(14) 3 km. ☐ 300 m. (< or = or >)

2 Complete :

(1) The two diagonals are equal in length in .... and ....

(2) The number 3 milliard , 23 million , 582 thousand , and 120 in digits is ....

(3) The place value of the digit 6 in the number 91<u>6</u> 285 073 is ....

(4) 9 000 cm^2 = ... dm^2

(5) 752 013 + 439 815 = ...

(6) The area of a square of side length 5 cm. equals .... cm^2

(7) The smallest number formed from 3 , 5 , 9 , 0 , 6 and 8 is ....

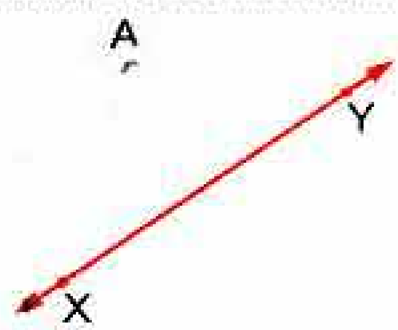
(8) 324 × 7 = ...

3 Answer the following :

(1) If 756 pupils in a school are distributed equally among 18 classes. Find the number of pupils in each class.

....

(2) Draw a straight line parallel to $\overleftrightarrow{XY}$ from the point A



(3) Find H.C.F. and L.C.M. of the numbers 12 and 8

12 = ...

8 = ...

H.C.F. = ...

L.C.M. = ...

(4) In a triangle ABC , if m (∠ A) = 60° and m (∠ B) = 40° , find m (∠ C)

....

6 Giza Governorate

El-Agoza Educational Directorate
Maths Supervision

Answer the following questions :

1 Complete :

(1) 17 620 + 5 356 = ...

(2) 7 288 316 – 6 000 000 = ...

(3) 123 × 15 = ...

(4) 70 070 ÷ 35 = ...

(5) The common factor of all the numbers is ....

(6) The triangle whose side lengths are 6 cm. , 3 cm. and 6 cm. , its type according to its side lengths is .... triangle.

(7) H.C.F. of the two numbers 6 , 8 is ....

(8) The side length of the square whose perimeter is 28 cm. is .... cm.

2 Choose the correct answer :

(1) The greatest number formed from the numbers (4 , 1 , 5 , 3 , 2 , 9) is .... (45 321 **or** 123 459 **or** 954 321)

(2) The value of the digit 4 in the number 546 789 is .... (40 000 **or** 4 000 **or** 400 000)

(3) 4 m^2 .... 400 cm^2 (< **or** > **or** =)

(4) If the two dimensions of a rectangle are 3 cm. , 7 cm. , then its perimeter = ... cm. (7 **or** 17 **or** 20 **or** 40)

(5) The milliard is the smallest number formed of .... digits. (7 **or** 8 **or** 9 **or** 10)

(6) The number 15 is the a common multiple of two numbers ....

(2 , 5 **or** 4 , 3 **or** 5 , 3)

(7) The number 2 015 is divisible by .... (2 **or** 3 **or** 4 **or** 5)

(8) The sum of measures of interior angles of any triangle = ...

(180° **or** 108° **or** 810°)

(9) The geometrical shape whose four sides are equal in length is called .... (trapezium **or** rectangle **or** rhombus)

(10) All of the .... numbers are divisible by 2

(odd **or** even **or** prime)

(11) 32 605 108 .... 23 511 998 (> **or** < **or** =)

(12) $25 \times 7 \times 4 =$ .... (36 **or** 700 **or** 179)

(13) The perimeter of the square whose side length is 3 cm. = ...

(9 cm. **or** 6 cm. **or** 12 cm.)

(14) The two parallel straight lines are not intersected. (✔ **or** ✘)

3 **Answer the following :**

(1) Triangle ABC in which m (∠ A) = 50° and m (∠ B) = 100°
, calculate : m (∠ C)

....

(2) Reda bought a vacuum cleaner by L.E. 2 412 , he paid it equally on 12 months. How much did he pay every month ?

What he paid every month = ...

(3) Find H.C.F. and L.C.M. of the two numbers $(2 \times 2 \times 5)$ and $(2 \times 3 \times 5)$

....

....

(4) Draw triangle ABC , in which BC = 4 cm.
, m (∠ B) = 30° and m (∠ C) = 50°

7 Alexandria Governorate

Mid Educational Zone
Mathematics Inspection

Answer the following questions :

1 Choose the correct answer:

(1) The number .... is a prime number.
(15 or 17 or 21 or 16)

(2) The diagonals of .... are equal in length.
(rhombus or rectangle or triangle or trapezium)

(3) The quadrilateral , which has two parallel sides only is ....
(square or rectangle or trapezium or rhombus)

(4) L.C.M. for the numbers 8 , 3 is .... (8 or 3 or 24 or 12)

(5) 1 m^2 = ... dm^2 (10 or 100 or 1 000 or 10 000)

(6) The number 105 is divisible by 5 and ....
(2 or 10 or 6 or 3)

(7) 30 × 40 .... 20 × 60 (< or > or = or otherwise)

(8) .... is the common multiple for all the numbers.
(0 or 1 or 2 or 3)

(9) The perimeter of a square is 32 cm. , then its area = ... cm^2
(8 or 16 or 40 or 64)

(10) 999 999 + 1 = ...
(one thousand or one million or one milliard or ten thousands)

(11) Five million and 5 thousand and five = ...
(5 050 or 500 005 or 5 005 005 or 55)

(12) The value of the digit 7 in the number 276 321 is ....
(7 000 or 70 or 700 or 70 000)

(13) 25 025 ÷ 25 = ... (101 or 1 001 or 11 or 1 000)

(14) The L.C.M. for the numbers 2 , 3 and 7 is ....
(6 or 21 or 14 or 42)

2 Complete :

(1) The prime number that lies between 6 and 10 is ....

(2) 3 216 310 + 721 563 = ...

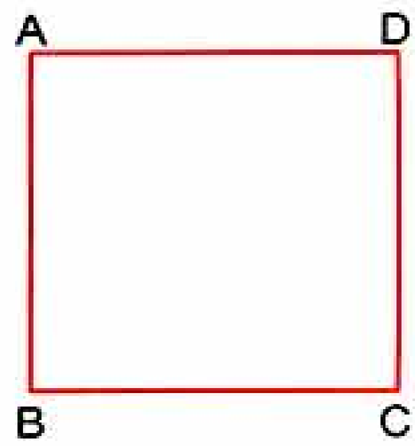
(3) The area of a rectangle whose dimensions are 7 cm. , 6 cm. = ... cm^2

(4) 8 km^2 = ... m^2

(5) In the opposite figure :

ABCD is a square , then

$\overline{AD}$ .... $\overline{BC}$ (⊥ or //)



(6) 321 × 36 = ...

(7) The numbers of factors of 12 is ....

(8) In Δ ABC , if m (∠ A) = 40° , m (∠ B) = 30° , then m (∠ C) = ...

3 Answer the following :

(1) Find H.C.F. of the numbers 20 , 16

....

....

....

(2) If 756 pupils in a school are distributed equally among 18 classes. Find the number of the pupils in each class.

....

(3) A rectangle , its dimensions are 3 cm. and 7 cm. Find its perimeter.

....

(4) Draw Δ ABC in which $\overline{AB}$ = 5 cm. , m (∠ A) = 40° , m (∠ B) = 50°

Find : m (∠ C)

8 Alexandria Governorate

East Educational Zone
Naguib Mahfouz G.L.S.

Answer the following questions :

1 Choose the correct answer :

(1) Nine hundred thousand and eighty = ...

(90 080 *or* 900 080 *or* 9 100 080 *or* 900 018)

(2) The place value of the digit 7 in the number 736 542 is ....
(thousands or ten thousand or hundredthousands or millions)

(3) ABC is a triangle , m (∠ A) = 100° , this triangle is ....
(an obtuse-angled triangle or a right-angled triangle or an acute-angled triangle or an equilateral triangle)

(4) 3 centimetres = ... mm. (3 or 10 or 30 or 300)

(5) The number 12 is the L.C.M. for 3 , ...
(4 or 9 or 15 or 36)

(6) The smallest 10-digit number is ....
(thousand or million or milliard or hundred)

(7) 660 ÷ 5 .... 660 ÷ 4 (< or > or = or ≥)

(8) The measure of any angle of the square = ...°
(30 or 60 or 45 or 90)

(9) 25 × 7 × 4 = ... (53 or 70 or 179 or 700)

(10) 6 254 117 = 254 117 + ...
(6 000 or 60 000 or 600 000 or 6 000 000)

(11) The smallest prime number is .... (0 or 1 or 2 or 3)

(12) If the dimensions of a rectangle are 5 cm. , 3 cm. , then its perimeter = ... cm. (15 or 8 or 30 or 16)

(13) The number .... is divisible by 2 , 3 (10 or 14 or 18 or 21)

(14) 17 = 5 × 3 + ... (1 or 2 or 3 or 4)

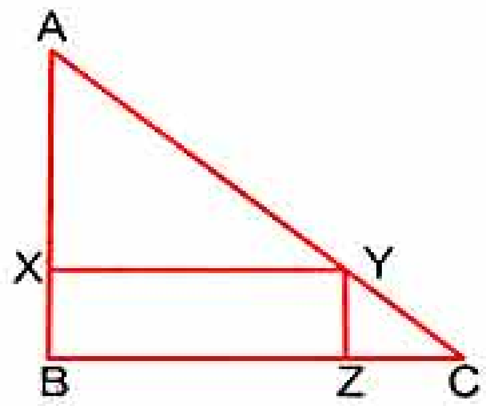
2 **Complete :**

(1) A number is divisible by 5 , if its units digit is 0 or ....

(2) 357 × 4 = ...

(3) 642 000 – 450 000 = ...

(4) **In the opposite figure :**
$\overleftrightarrow{AB}$ // ....



(5) **In the previous figure :**
$\overleftrightarrow{YC}$ intersects with $\overleftrightarrow{BX}$ at the point ....

(6) Area of a rectanglewhose dimensions are 9 cm. and 8 cm. = ... cm^2.

(7) The L.C.M. of the two numbers 2 and 4 is ....

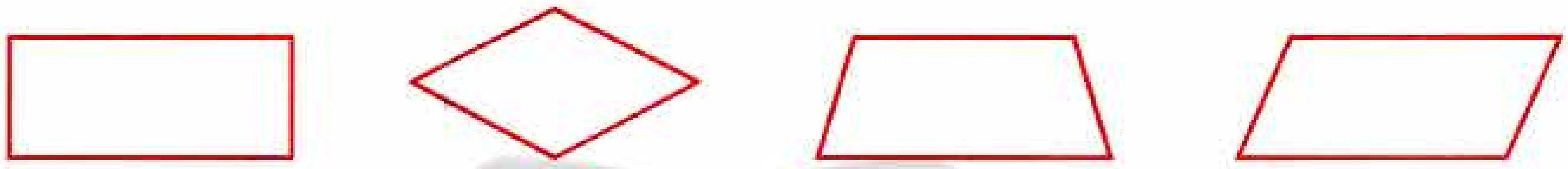
(8) Perimeter of a square of side length 9 cm. = ... cm.

3 Answer the following questions :

(1) If the budget allocated to support drinking water increased in two consecutive years from 270 250 000 pounds to 750 180 000 pounds. Find the amount of increase.

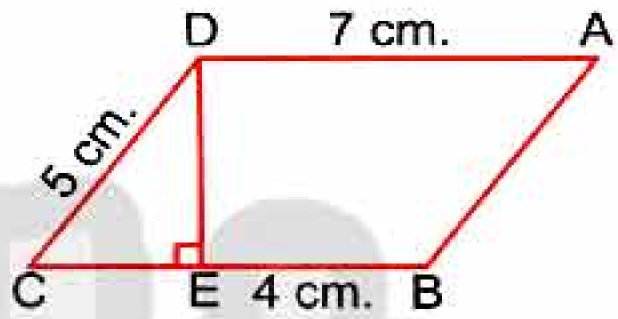
The amount of increase = ... pounds.

(2) Join each figure to the suitable name :



Rhombus   Rectangle   Parallelogram   Trapezium

(3) In the opposite figure :



ABCD is a parallelogram

Find the perimeter of the parallelogram ABCD

The perimeter of the parallelogram ABCD

= .... = ... cm.

(4) Calculate the H.C.F. for the two numbers 24 and 40

....

....

....

9 El-Kalyoubia Governorate Mathematics Inspection

Answer the following questions :

1 Choose the correct answer :

(1) 7 256 312 – 7 056 300 = ...

(200 000 or 200 012 or 200 millions or 250 thousands)

(2) 5 260 180 + 7 985 954 = ...

(12 145 034 or 12 millions or 13 246 134 or 13 millions)

(3) 25 × 977 × 4 = ...

(9 000 or 10 000 or 110 000 or 97 700)

(4) The value of the digit 7 in the number 27 351 is ....

(7 **or** 70 **or** 7 000 **or** 70 000)

(5) 71 million , 425 thousand , 12 is written as ....

(71 124 350 **or** 71 425 012 **or** 71 043 512 **or** 71 435 120)

(6) 150 thousands = ...

(150 tens **or** 15 thousands **or** 1 500 hundreds **or** 1 500 000)

(7) 40 000 ÷ 40 = ... (100 **or** 1 000 **or** 10 000 **or** 10)

(8) The prime number just comes after 17 is ....

(18 **or** 19 **or** 20 **or** 21)

(9) The place value of the digit 3 in the number 736 542 is ....

(thousands **or** ten thousands **or** hundred thousands **or** millions)

(10) The digit which represents millions in the number 78 201 654 is ....

(2 **or** 6 **or** 8 **or** 7)

(11) The two diagonals are equal in length in ....

(trapezium **or** parallelogram **or** rhombus **or** square)

(12) The sum of the measures of the interior angles of a triangle is .... ° (90 **or** 120 **or** 180 **or** 160)

(13) If the perimeter of an equilateral triangle = 12 cm. , then the length of its side = ... cm. (3 **or** 4 **or** 5 **or** 6)

(14) 1 m^2 = ... dm^2 (1 **or** 10 **or** 100 **or** 10 000)

2 Complete each the following :

(15) 4 691 508 = 4 millions + 691 thousands + ...

(16) 8 752 013 + 439 815 = ...

(17) The factors of the number 35 are .... , ... , ... , ...

(18) 742 ÷ 2 = ...

(19) In the rectangle , each two opposite sides are ....

(20) The four sides are equal in length in the square and ....

(21) 72 hours = ... days.

(22) The rectangle whose dimensions are 3 cm. and 8 cm. its area = ... cm^2

3 **(23)** Basam bought a flat in a housing tower for L.E. 168 940
He paid L.E. 100 000 as a down payment and the rest on 18 equal instalments. Find the value of each instalment.

....

....

(24) Find H.C.F. for the numbers 24 and 36

....

....

(25) If the perimeter of a square is 28 cm. , find its area.

....

....

(26) Draw Δ XYZ in which XY = 7 cm.
, YZ = 5 cm. and m ($\angle$ Y) = 40°

10 El-Sharkia Governorate

Menia El-Qamh Educational Directorate
King Fahd F.L.S.

Answer the following questions :

1 **Choose the correct answer :**

(1) The number .... is a prime number. (10 *or* 15 *or* 17 *or* 24)

(2) 6 000 ÷ 15 ☐ 6 000 ÷ 20 (< *or* = *or* > *or* otherwise)

(3) 6 250 117 = ... + 250 117
(6 *or* 60 000 *or* 600 000 *or* 6 000 000)

(4) The number .... is divisible by 2 and 3
(10 *or* 14 *or* 18 *or* 21)

(5) Area of the rectangle of dimensions 5 cm. and 7 cm. is .... cm^2
(12 *or* 35 *or* 57 *or* 24)

(6) The diagonals are equal in length and perpendicular in ....
(square *or* rectangle *or* circle *or* rhombus)

(7) Sum of measures of interior angles of the triangle is ....°
(60 *or* 90 *or* 120 *or* 180)

(8) The number of factors of 12 is .... factors.
(3 *or* 4 *or* 6 *or* 12)

(9) The place value of 3 in the number 2 736 542 is ....
(millions *or* ten thousands *or* hundreds *or* units)

(10) The H.C.F. of 8 and 12 is .... (4 *or* 8 *or* 24 *or* 96)

(11) 7 070 ÷ 35 = ... (11 *or* 22 *or* 220 *or* 202)

(12) 1 m^2 = ... dm^2. (1 *or* 10 *or* 100 *or* 1 000)

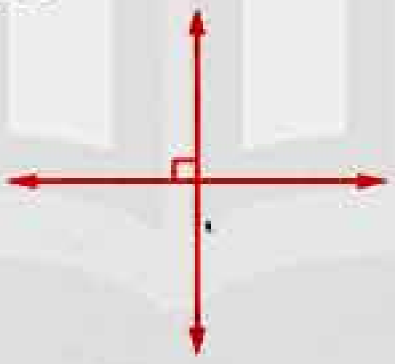
(13) One million is the smallest number formed from .... digits.
(7 *or* 8 *or* 9 *or* 10)

(14) 32 605 108 ☐ 3 260 510 (< *or* = *or* > *or* otherwise)

2 Complete :

(15) 50 × 600 = ...

(16) Perimeter of the square = ...

(17) The two straight lines  are ....

(18) 5 million , 75 thousand and 250 in digits is ....

(19) A number is divisible by 5 if its units is .... or ....

(20) The number which is one million more than 6 420 111 is..............

(21) 1 million = ...thousands.

(22) The common multiple of all numbers is ....

3 Answer the following :

(23) 574 × 69 = ...

(24) 38 982 ÷ 73 = ...

(25) Draw Δ ACB in which AB = 5 cm.
and m (∠ A) = m (∠ B) = 45°

(26) Find H.C.F. and L.C.M. of the two numbers 24 and 36

....

....

....

11 El-Monofia Governorate

Quesna Educational Directorate
Quesna G.L.S.

Answer the following questions :

1 Choose the correct answer :

(1) The quadrilateral that has only two opposite sides are parallel and not equal in length is called ....
(square or rectangle or rhombus or trapezium)

(2) The million is the smallest number formed from .... digits.
(7 or 8 or 9 or 10)

(3) The smallest odd prime number is .... (1 or 2 or 3 or 5)

(4) The number 411 is divisible by .... (2 or 3 or 5 or 10)

(5) The polygon which has no diagonals is called ....
(triangle or square or rectangle or rhombus)

(6) The perimeter of square of side length 5 cm. is .... cm.
(20 or 25 or 15 or 24)

(7) The place value of 6 in the number 263 154 287 is ....
(hundred thousands or ten thousands or millions or ten millions)

(8) $125 \times 7 \times 8 =$ .... (600 or 700 or 6 000 or 7 000)

(9) The triangle whose angles measures are 40° and 70° is ....-angled triangle. (acute or right or obtuse)

(10) The number .... is a common multiple of all numbers.
(0 or 1 or 2 or 3)

(11) 71 million , 425 thousand , and 12 = ...
(7 142 515 or 71 425 012 or 71 425 120 or 7 142 512)

(12) The prime number just after 13 is ....
(15 or 16 or 17 or 19)

2 Complete :

(1) The parallelogram with right angle is called ....

(2) The prime number whose the sum of its factors = 6 is ....

(3) $924 \times 35 =$ ....

(4) 50 m. = ... dm.

(5) The triangle whose side lengths are 6 cm. , 3 cm. and 6 cm. is .... (according to its side lengths).

(6) The primeter of the rectangle whose dimensions are 3 cm. and 7 cm. = ...

(7) 7 000 000 = ... ten thousands.

(8) The number whose prime factors are 2 , 3 , 7 is ....

3 **Answer the following :**

(1) Find the result :

[a] 805 261 + 149 838 = ...

[b] 9 millions – 550 000 = ...

(2) A housing tower contains 208 rooms distributed equally among floors. If each floor contains 16 rooms , calculate the number of floors in the tower.

....

(3) Find the H.C.F. and L.C.M. of 18 , 24

....

....

(4) Draw triangle ABC in which

AB = BC = 5 cm. , m (∠ B) = 60°

, then find the length of $\overline{AC}$

(5) A square , its perimeter is 24 cm. , find its area.

....

....

12 El-Gharbia Governorate

El-Gharbia Educational Directorate
Math's Supervision

Answer the following questions :

1 **Choose the correct answer :**

(1) The place value of the digit 5 in the number 25 761 483 is ....
(milliards *or* millions *or* hundred thousands)

(2) The number 64 is divisible by .... (3 *or* 9 *or* 8)

(3) .... is the common multiple of all numbers. (0 *or* 1 *or* 2)

(4) The perimeter of a square is 32 m. , then its side length is .... m.
(14 *or* 8 *or* 4)

(5) The side lengths 4 cm. , 6 cm. , 3 cm. are of .... triangle.
(an isosceles *or* an equilateral *or* a scalene)

(6) The two perpendicular straight lines form four .... angles.
(acute *or* right *or* obtuse)

(7) The number that its prime factors are 2 , 2 and 3 is ....
(12 *or* 9 *or* 10)

(8) The .... has 7 sides. (square *or* triangle *or* heptagon)

(9) 243×4 .... 243×5 ($<$ *or* $=$ *or* $>$)

(10) $202 \div 2 =$ .... (111 *or* 101 *or* 110)

(11) 840 000 – 245 354 = ... (324 933 *or* 625 933 *or* 594 646)

(12) The sum of measures of interior angles of a triangle is ....°
(90 *or* 360 *or* 180)

(13) 4 km. = ... m. (40 *or* 4 000 *or* 400)

(14) In ΔXYZ , m ($\angle X$) = 60° and m ($\angle Y$) = 30° , then ΔXYZ is ....-angled triangle. (acute *or* obtuse *or* right)

2 Complete :

(1) The smallest prime number is ....

(2) 63 785 230 = 230 + ... + 63 000 000

(3) 254 640 + 13 269 = ...

(4) The value of 3 in 536 488 is ....

(5) $652 \times 24 =$ ....

(6) The two diagonals are equal in length in .... and ....

(7) $36\ 024 \div 12 =$ ....

(8) 15 dm. = ... cm.

3 Answer the following :

(1) In a certain year , the profit of one shop was L.E. 7 316 , if the profit is distributed equally among 31 workers. Find the share of each worker.

....

(2) Draw ΔABC in which AB = 5 cm.
, ($\angle B$) = 40° and m ($\angle A$) = 70°
, then find : m ($\angle C$) = ...°

(3) Find the H.C.F. for 18 and 27

....

....

....

(4) Find the area of the rectangle whose length is 7 cm. and width is 4 cm.

....

13 El-Dakahlia Governorate
Math Supervision

Answer the following questions :

1 **Choose the correct answer :**

(1) The place value of the digit 7 in the number 3 754 932 is ....

(millions **or** hundred thousands **or** thousands **or** 700 000)

(2) The quotient of 2 727 ÷ 27 = ...

(11 **or** 111 **or** 101 **or** 1 001)

(3) The common factor for all numbers is ....

(1 **or** 2 **or** 3 **or** zero)

(4) 4 × 1 000 = 5 × .... (400 **or** 80 **or** 400 **or** 80 tens)

(5) The greatest prime number between 10 and 20 is ....

(11 **or** 13 **or** 19 **or** 17)

(6) 8 million , 45 thousand = ...

(8 450 000 **or** 8 000 045 **or** 8 045 000 **or** 845 000)

(7) The type of the triangle whose side lengths are 8 cm. , 5 cm. and 8 cm. is .... triangle.

(scalene **or** equilateral **or** rectangle **or** isosceles)

(8) $\frac{1}{4}$ of a day = ... minutes. (6 **or** 360 **or** 240 **or** 1 440)

(9) Parallelogram with a right angle is called ....

(trapezium **or** square **or** rhombus **or** rectangle)

(10) The number whose prime factors are 2 , 3 and 7 is ....

(42 **or** 12 **or** 30 **or** 21)

(11) The type of triangle whose measure angles are 50° and 30° is ....-angled triangle.

(acute **or** right **or** obtuse **or** equilateral)

(12) $8 \times 641 \times 125 =$ ....
(614 thousands *or* 641 thousands *or* 641 hundreds *or* 6 410 tens)

(13) (341 + ...) is divisible by 3
(zero *or* one *or* two *or* three)

(14) 30 is L.C.M. of the two numbers .... and ....
(12 and 18 *or* 36 and 18 *or* 9 and 6 *or* 15 and 6)

2 Complete :

(1) The sum of measures of interior angles of a triangle = ...°

(2) H.C.F. of the two numbers 7 and 21 is ....

(3) The smallest number formed from the digits 4 , 5 , 0 , 7 , 6 and 9 is ....

(4) The area of square whose perimeter is 24 cm. is .... cm^2.

(5) 655 874 – 325 874 = ...

(6) $27 \times 53 = 27 \times$ (.............. + 3)

(7) Pentagon is a polygon has .... angles.

(8) 3 dm^2 = ... cm^2

3 Answer the following :

(1) A tourism agency wanted to book some buses to transport 672 tourists to the Giza pyramids. If each bus holds 48 tourists , how many buses are needed ?

....

(2) Arrange in a descending order :

2 458 712 , 2 458 541 , 2 451 003 and 2 478 215

Descending order is : .... , ... , ... and ....

(3) The dimensions of rectangle are 10 cm. and 6 cm. , find the perimeter and area of rectangle.

Perimeter of rectangle = ... = ... cm.

Area of rectangle = ... = ... cm^2

(4) Draw the triangle ABC in which

AB = BC = 4 cm. , m (∠ B) = 60°

14 Ismailia Governorate

South Ismalilia Educational Zone
Suez Canal Language School

Answer the following questions :

1 Choose the correct answer :

(1) The sum of the measures of the interior angles of a triangle = ...°
(90 or 120 or 180 or 360)

(2) The place value of the digit 3 in the number 736 542 is ....
(thousands or ten thousands or hundred thousands or millions)

(3) 71 million , 425 thousand , 12 written as ....
(71 124 350 or 71 425 012 or 71 043 512 or 71 435 120)

(4) The smallest even prime number is ....
(zero or 1 or 2 or 3)

(5) The digit which represents millions in the number 78 201 654 is ....
(2 or 6 or 8 or 7)

(6) The number .... is divisible by 2 , 3 and 5
(6 or 10 or 15 or 30)

(7) The measure of any angle of the square = ...°
(30 or 60 or 45 or 90)

(8) 25 × 7 × 4 = ... (53 or 70 or 179 or 700)

(9) 7 m. ☐ 7 000 cm. (> or < or = or ≥)

(10) The H.C.F. for 8 and 12 is .... (4 or 8 or 24 or 96)

(11) If the side length of square equals 4 cm. , then the perimeter = ... cm. (16 or 20 or 24 or 18)

(12) 99 999 + 1 = ...
(99 990 or 999 900 or 100 000 or 1 000 000)

(13) The milliard is the smallest number formed from .... digits.
(7 or 8 or 9 or 10)

(14) 7 070 ÷ 35 = ... (11 or 22 or 20 or 202)

2 Complete :

(1) If the dimensions of rectangle are 5 cm. and 3 cm. , then its perimeter = ... cm.

(2) .... is a factor of all numbers.

(3) The two diagonals are equal in length in .... and ....

(4) 40 000 ÷ 40 = ...

(5) 3 kilometres = ... metres.

(6) 50 × 600 = ...

(7) L.C.M. of 5 and 10 is ....

(8) 2 565 178 – one million = ...

3 Answer the following :

(1) A hotel contains 180 rooms divided equally among a number of floors each floor contains 15 rooms. How many floors are there in this hotel ?

The number of floors = ... = ...

(2) Draw the triangle ABC in which

AB = 5 cm. , m (∠ A) = 40° , m (∠ B) = 50°

(3) If the dimensions of a rectangle are 30 cm. and 20 cm.

Find the area of rectangle.

....

15 Suez Governorate

Inspection of Mathematics

Answer the following questions :

1 Choose the correct answer :

(1) The smallest prime number is .... (1 *or* 2 *or* 4 *or* 8)

(2) The sum of the measure of interior angles of a triangle equals ....

(90° *or* 120° *or* 180° *or* 360°)

(3) The place value of the digit 3 in the number 736 542 is ....

(thousands *or* ten thousands *or* hundred thousands *or* hundreds)

(4) The triangle whose side lengths are 5 cm. , 3 cm. , 5 cm. is ....

(scalene *or* isosceles *or* equilateral)

(5) The number .... is divisible by 2 and 3

(10 **or** 14 **or** 18 **or** 21)

(6) $25 \times 6 \times 4 =$ .... (24 **or** 150 **or** 100 **or** 600)

(7) If the perimeter of equilateral triangle is 12 cm. , then the length of its side = ... cm. (3 **or** 4 **or** 5 **or** 6)

(8) The number whose prime factors are 2 , 3 , 3 .... the number whose prime factors are 2 , 2 , 3 (< **or** > **or** = **or** otherwise)

(9) The measure of any angle of a square is ....

(30° **or** 60° **or** 45° **or** 90°)

(10) $\frac{1}{2}$ million = ... (2 500 **or** 50 000 **or** 500 000 **or** 25 000)

(11) If the dimension of a rectangle are 8 cm. and 5 cm. , then its area = ... cm^2 (13 **or** 26 **or** 40 **or** 20)

(12) The perimeter of a square of side length 4 cm. .... the perimeter of a rectangle whose dimension are 5 cm. , 3 cm. (> **or** < **or** =)

(13) All the .... numbers are divisible by 2 (odd **or** even **or** prime)

(14) The measure of acute angle .... the measure of obtuse angle.

(> **or** < **or** =)

2 Complete :

(1) The number of sides of pentagon is ....

(2) 8 millions , 36 thousands and 745 = ...

(3) .... $\div 4 = 6$

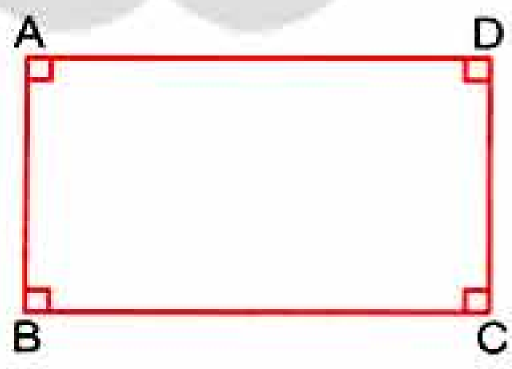
(4) $50 \times 400 =$ ....

(5) The quadrilateral in which only two sides are parallel and not equal in length is called ....

(6) **In the opposite figure :**

ABCD is a rectangle , then :

BD = ...



(7) .... is the common multiple for all numbers.

(8) 15 dm. = ... cm.

3 Answer the following :

(1) Calculate the H.C.F. for the two numbers 8 and 12

....

....

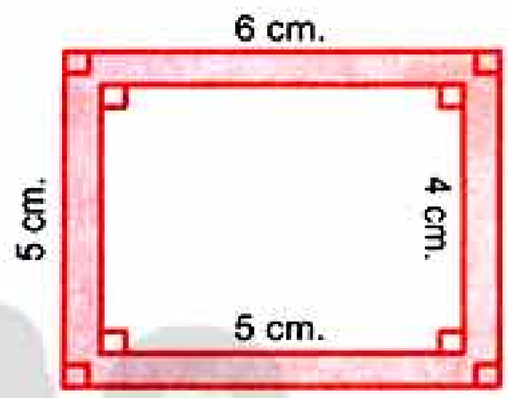
....

(2) Draw the triangle ABC in which AB = 5 cm.
, m (∠ A) = 30° and m (∠ B) = 60°
Calculate m (∠ C) , what is the type of the triangle ABC with respect to the measure of its angle.

(3) If 756 pupils in a school and distributed equally among 18 classes. Find the number of pupils in each class.

....

(4) In the opposite figure :
Find the area of the shaded part.



....
....
....

16 Port Said Governorate

Maths Inspectorate

Answer the following questions :

1 Choose the correct answer :

(1) The number .... is the common multiple of all numbers.
(0 or 1 or 2 or 3)

(2) The sum of measures of the interior angles of a triangle = ...
(90° or 120° or 180° or 360°)

(3) The value of the digit 7 in the number 275 965 is ....
(700 000 or 70 000 or 7 000 or 700)

(4) The smallest prime number is .... (zero or 1 or 2 or 3)

(5) 5 dm^2 = ... cm^2 (5 or 50 or 500 or 5 000)

(6) The number .... is divisible by 2 , 3 and 5
(6 or 10 or 15 or 30)

(7) 25 × 7 × 4 = ... (53 or 70 or 179 or 700)

(8) The triangle whose side lengths are 9 cm. , 5 cm. and 9 cm. is ....
(scalene or isosceles or equilateral or otherwise)

(9) 4 millions , 725 thousands and 906 = ...

(4 725 906 or 472 596 or 40 725 906 or 4 725 906 000)

(10) $3\frac{1}{2}$ km. = ... m. (35 or 350 or 3 500 or 35 000)

(11) Million is the smallest number that formed from .... digits.

(6 or 7 or 8 or 9)

(12) .... is the common factor of all numbers. (0 or 1 or 2 or 3)

(13) 999 999 + 1 = ...

(1 000 000 or 9 999 990 or 9 999 999 or 10 000 000)

(14) The L.C.M. for the two numbers 3 and 6 is ....

(3 or 6 or 9 or 18)

2 Complete the following :

(1) $\frac{1}{4}$ million pounds is written in digits as .... pounds.

(2) 587 692 + 412 308 = ...

(3) 2 565 178 – one million = ...

(4) A rectangle of dimensions 4 cm. and 3 cm. , then its area = ... cm^2.

(5) The polygon which has six sides is called..............

(6) The factors of 6 are .... , ... , ... and ....

(7) An equilateral triangle , the lengths of two sides of it are 6 cm. and 6 cm. , then the length of the third side = ... cm.

(8) $\frac{1}{2}$ day = ... hours.

3 Answer the following :

(1) Arrange the following numbers in an ascending order :

861 542 , 681 542 , 186 542 and 168 542

The order is : .... , ..., ... and ....

(2) A hotel contains 192 rooms divided equally by a number of floors , each floor contains 16 rooms. How many floors are there in the hotel ?

The number of the floors = ... = ... floors.

(3) Find the H.C.F. of the two numbers 8 and 12

8 = ...

12 = ...

H.C.F. = ... = ...

(4) Draw triangle ABC in which
AB = 8 cm. , m (∠ A) = 50°
and m (∠ B) = 40°
, then find m (∠ C)

17 Damietta Governorate

Mathematics Supervision

Answer the following questions :

1 **Choose the correct answer :**

(1) The value of the digit 3 in the number 23 751 is ....
(3 *or* 30 *or* 3 000 *or* 30 000)

(2) Million is the smallest number formed from .... digits.
(6 *or* 7 *or* 9 *or* 10)

(3) The number .... is divisible by 3 and 5
(10 *or* 12 *or* 25 *or* 30)

(4) The polygon which has no diagonals is ....
(triangle *or* quadrilateral *or* pentagon *or* hexagon)

(5) 5 m^2 = ... dm^2 (50 *or* 500 *or* 5 000 *or* 50 000)

(6) The smallest odd prime number is .... (0 *or* 1 *or* 2 *or* 3)

(7) 660 ÷ 5 ☐ 660 ÷ 4 (> *or* < *or* = *or* otherwise)

(8) 71 millions , 435 thousands and twelve is written in digits is ....
(71 124 350 *or* 714 350 *or* 7 143 512 *or* 71 435 012)

(9) The triangle whose side lengths are 5 cm. , 3 cm. , 5 cm. is ....
(scalene *or* equilateral *or* isosceles *or* obtuse-angled)

(10) The L.C.M. for the two numbers 4 and 12 is ....
(2 *or* 4 *or* 12 *or* 48)

(11) The common factor of all the numbers is ....
(0 *or* 1 *or* 2 *or* 3)

(12) A square , its area = 9 cm^2 , then its side length = ... cm.
(3 *or* 9 *or* 12 *or* 81)

(13) 7 070 ÷ 35 = ... (22 *or* 220 *or* 202 *or* 222)

(14) The number of factors of 8 is .... (2 *or* 3 *or* 4 *or* 8)

2 Complete the following :

(1) The prime number whose sum of its factors 6 is ....

(2) $25 \times 3 \times 4 =$ ....

(3) The two diagonals are perpendicular in .... and ....

(4) The perimeter of an equilateral triangle = 12 cm. , then the length of its side = ... cm.

(5) The smallest number whose prime factors 2 , 5 and 7 is ....

(6) $45 \times 23 =$ .... (show steps)

(7) In Δ ABC , if m ($\angle$ A) = 70° , m ($\angle$ B) = 50° , then m ($\angle$ C) = ...°

(8) A rectangle whose dimensions are 5 cm. and 3 cm. , then its perimeter = ... cm.

3 Answer the following :

(1) Ahmed bought a TV set for L.E. 3 500 , he paid L.E. 620 in cash , then he paid the rest in 24 equal instalments , complete :

The rest = ...

The value of each instalment = ...

(2) Calculate the H.C.F. for the two numbers 18 and 24

....

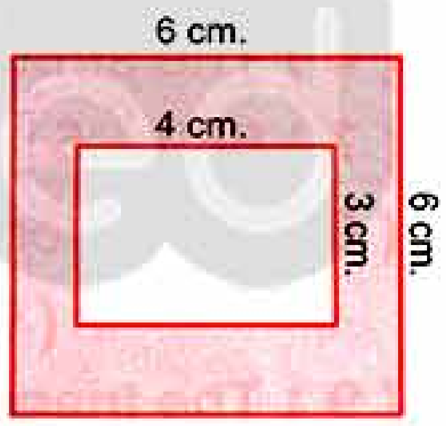
....

....

....

(3) In the oppsite figure :

Find the area of the shaded part in which the outer shape is a square of side length 6 cm. and the inner shape is a rectangle of dimensions 4 cm. and 3 cm.



....

....

....

....

(4) Draw Δ ABC in which AB = 6 cm. , m ($\angle$ A) = 40° , m ($\angle$ B) = 50° , then determine the type of the triangle according to the measures of its angles.

18 Kafr El-Sheikh Governorate

Maths Inspection

Answer the following questions :

1 Choose the correct answer :

(1) One million is the smallest number formed from .... digits.
(7 or 10 or 9 or 6)

(2) The number of factors of 9 .... factors. (1 or 4 or 2 or 3)

(3) Three millions , three thousands and three in digits ....
(3 003 003 or 333 or 300 300 300 or 3 330 000)

(4) 7 251 309 + 748 691 = ...
(one million or two millions or 8 millions or 80 thousands)

(5) 15 is L.C.M. to the two numbers 3 and ....
(5 or 10 or 15 or 3)

(6) The value of the digit 4 in the result of operation ($8 \times 641 \times 125$) = ... (40 000 or 4 000 or thousands or 4 000 000)

(7) 625 ÷ 5 .... 625 ÷ 4 (< or = or > or ≥)

(8) 54 is divisible by .... (4 or 6 or 7 or 8)

(9) Half million = ... (500 000 or 250 000 or 50 000 or 5 000)

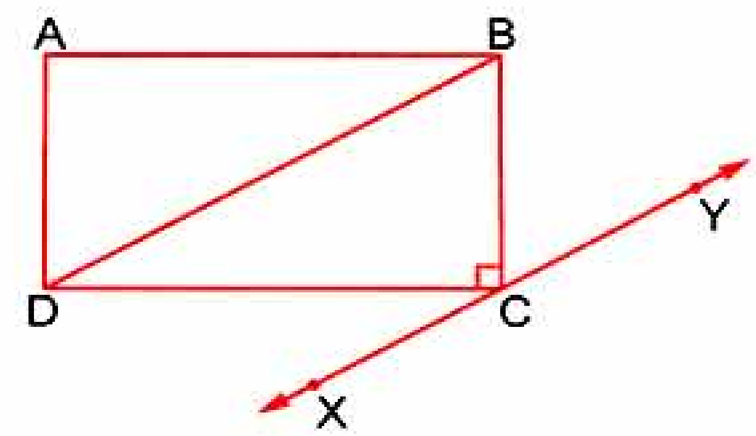
(10) The two diagonals are perpendicular and equal in length in the ....
(square or rectangle or rhombus or trapezium)

(11) In the right-angled triangle , the measure of one of its angle should be ....° (60 or 90 or 30 or 180)

(12) The metre = ... mm. (10 or 100 or 1 000 or 10 000)

(13) If the perimeter of a square is 20 cm. , then its area = ...
(25 cm. or 16 cm² or 25 cm² or 10 cm²)

(14) **In the opposite figure :**
$\overline{AB} \perp$ ....



($\overline{BC}$ or $\overleftrightarrow{XY}$ or $\overline{BD}$ or $\overline{CD}$)

2 **Complete each of the following :**

(15) The H.C.F. for 5 and 10 = ...

(16) 3 456 789 – million = ...

(17) The quadrilateral has .... diagonals.

(18) The only even prime number + the smallest odd prime number = ...

(19) The sum of measures of the interior angles in a triangle is ....°

(20) The number whose prime factors are 2 , 5 , 3 is ....

(21) 123 × 45 = ...

(22) The multiple of 3 between 10 and 14 is ....

3 **Answer the following :**

(23) Find the H.C.F. and the L.C.M. for 12 and 20

12 = ...

20 = ...

H.C.F. = ...

L.C.M. = ...

(24) A hotel contains 169 rooms , divided equally by a number of floors , each floor contains 13 rooms. How many floors are there in this hotel ?

The number of floors = ... = ...

(25) Draw a triangle ABC in which

AB = 3 cm. , m (∠ B) = 90°

, BC = 4 cm. , then complete :

The length of $\overline{AC}$ = ... cm.

(26) A rectangle shaped hall whose length is 8 metres and width is 5 metres.

Find :

[a] The area = ...

[b] The perimeter = ...

19 El-Beheira Governorate

Damnhour Educational Zone
Al-Farabi Language School

Answer the following questions :

1 Choose the correct answer :

(1) $\frac{1}{4}$ million pounds = ... pounds.
(2 500 or 25 000 or 250 000 or 500 000)

(2) 20 dm. and 10 cm. = ... cm. (30 or 2 010 or 210 or 120)

(3) 9 145 000 – 9 142 000 = ...
(200 million or 100 million or 2 990 or 3 000)

(4) .... is a multiple of the number 8 (16 or 20 or 45 or 6)

(5) The value the digit 8 in the number 1 096 835 is ....
(8 or 800 or 8 000 or 80)

(6) The number .... is divisible by each 2 and 5
(27 or 25 or 72 or 100)

(7) The prime number after the number 399 is ....
(408 or 402 or 405 or 407)

(8) The two perpendicular straight lines form 4 .... angles.
(acute or right or obtuse)

(9) If the side lengths of a triangle are 3 cm. , 4 cm. and 3 cm. , then it is called ....
(isosceles triangle or scalene triangle or equilateral triangle)

(10) The perimeter of a square of side length 4 cm .... the perimeter of equilateral triangle its length 3 cm. (< or > or =)

(11) 3 million , 57 thousand , 9 is written as ....
(3 579 or 305 709 or 357 009 or 3 057 009)

(12) 8 × 641 × 125 = ... (641 thousands or 641 hundreds or 641 millions or 6 410 tens)

(13) All sides are equal in length in a ....
(parallelogram or rectangle or square or trapezium)

(14) 1 542 000 + 4 200 000 = ...
(5 642 000 or 5 742 000 or 5 427 000 or 2 567 000)

2 **Complete each of the following :**

(1) 5 348 475 – three thousands = ...

(2) The place value of the digit 5 in the number 45 679 328 is ....

(3) The sum of measures of interior angles of any triangle is ....

(4) The square has .... diagonals which are .... in length.

(5) The prime number has only .... factors.

(6) The greatest number formed from 6 digits is ....

(7) 3 milliard , seventeen million and 273 (in digits) = ...

(8) The area of a rectangle = ... × ....

3 **Answer each of the following :**

(1) 3 289 ÷ 23 = ...

(2) 248 × 35 = ...

(3) Find the L.C.M. and the H.C.F. of 24 and 36

H.C.F. = ...

L.C.M. = ...

(4) Draw the square ABCD in which

AB = 4 cm. , then find its perimeter.

(5) In a school , if 798 pupils are distributed equally among 19 classes.

Find the number of pupils in each class.

....

20 Souhag Governorate

Maths Supervision

Answer the following questions :

1 **Choose the correct answer :**

(1) The value of the digit 8 in the number 1 096 835 is ....

(8 *or* 80 *or* 800 *or* 8 000)

(2) The number 2 , 3 , 5 and 7 are called .... numbers.

(prime *or* odd *or* even *or* equal)

(3) The common factor of all numbers is ....

(1 *or* 2 *or* 3 *or* zero)

(4) The smallest number has only 3 factors is ....

(9 or 2 or 4 or 25)

(5) The polygon which has no diagonals is ....

(square or rectangle or triangle or trapezium)

(6) In .... triangle the length of its sides are 6 cm. , 4 cm. and 6 cm.

(a scalene or an isosceles or an equilateral or an obtuse-angled)

(7) The area of the rectangle of dimensions 8 cm. and 6 cm. = ... cm^2

(48 or 24 or 28 or 12)

(8) The H.C.F. of the two numbers 9 and 27 is ....

(3 or 9 or 27 or 18)

(9) 90 000 cm^2 = ... m^2 (9 or 90 or 900 or 9 000)

(10) 3 km. ☐ 3 000 m. (< or = or >)

(11) The number .... is divisible by both 2 and 3

(10 or 14 or 18 or 21)

(12) Milliard is the smallest number formed from .... digits.

(7 or 8 or 9 or 10)

(13) 150 thousands = ...

(150 tens or 15 thousands or 1 500 hundreds or 1 500 000)

(14) The lowest common multiple for the numbers 8 and 16 is ....

(8 or 16 or 32 or 24)

2 Complete each the following :

(1) 752 013 + 439 815 = ...

(2) 120 × 15 = ...

(3) 7 070 ÷ 35 = ...

(4) 93 642 – 32 161 = ...

(5) The perimeter of the square of side length 10 cm. = ... cm.

(6) The sum of the measures of the interior angles of any triangle = ... °

(7) 4 600 dm. = ... cm.

(8) The common multiple of all the numbers is ....

3 **Answer the following :**

(1) Draw the triangle ABC in which
AB = 5 cm. , m (∠ A) = 40°
and m (∠ B) = 50°

(2) A hotel contains 180 rooms divided equally among a number of floors , each floor contains 15 rooms , how many floors are there in this hotel ?
The number of floors = ... = ... floors.

(3) Find the H.C.F. and the L.C.M. of the two numbers 24 and 36
[a] H.C.F. = ...
[b] L.C.M. = ...

(4) Find the perimeter and the area of a square its side length is 7 cm.
The perimeter = ... cm.
The area = ... cm^2.

21 Qena Governorate

Qena Educational Directorate
Maths General Supervision

Answer the following questions :

1 **Choose the correct answer :**

(1) The smallest prime number is .... (0 or 1 or 2)

(2) The common multiple for all numbers is .... (0 or 1 or 2)

(3) The number 105 is divisible by 5 and .... (2 or 3 or 4)

(4) The sum of measures of the interior angles of a triangle = ... (90° or 108° or 180°)

(5) 3 millions, 57 thousands and 9 is written in digits as .... (357 009 or 3 057 009 or 3 579)

(6) The digit which represents millions in the number 78 201 654 is .... (2 or 6 or 8)

(7) The measure of any angle of the square = ... (30° or 60° or 90°)

(8) The H.C.F. for the two numbers 2 and 4 is .... (2 *or* 4 *or* 8)

(9) 40 000 ÷ 40 = ... (100 *or* 1 000 *or* 10 000)

(10) If the perimeter of an equilateral triangle = 12 cm , then the length of its side = ... cm. (3 *or* 4 *or* 6)

(11) The place value of the digit 3 in the number 736 542 is ....
(thousands *or* ten thousands *or* millions)

(12) The value of the digit 7 in the number 27 351 is ....
(7 *or* 70 *or* 7 000)

(13) The triangle whose side lengths are 6 cm. , 4 cm. and 6 cm. is ....
(a scalene triangle *or* an isosceles triangle *or* an equilateral triangle)

(14) The two diagonals are equal in length in each of ....
(square and rhombus *or* square and rectangle *or* rectangle and rhombus)

2 Complete each of the following :

(15) The common factor of all the numbers is ....

(16) The number whose prime factors are 2 , 5 and 7 is ....

(17) 50 × 600 = ...

(18) The quadrilateral in which only two sides are parallel is called ....

(19) 15 dm^2 = ... cm^2

(20) 70 × 20 = 14 × ....

(21) 32 million , 8 thousand and 15 is written in digits as ....

(22) 90 000 cm. = ... m.

(23) The factors of 15 are ....

3 Answer the following :

(24) 568 ÷ 2 = ...

(25)
$$\begin{array}{r} 354 \\ \times \quad 4 \\ \hline \ldots\ldots \end{array}$$

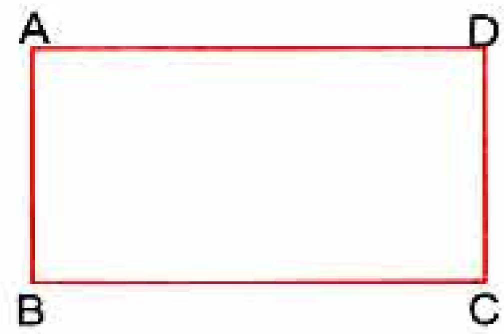
(26)
$$\begin{array}{r} 2\,1\,0\,7\,3\,0\,5 \\ +\,5\,7\,6\,0\,1\,1\,9 \\ \hline \ldots\ldots \end{array}$$

(27)
$$\begin{array}{r} 2\,2\,5\,6\,9\,1\,2 \\ -\,1\,1\,4\,5\,8\,1\,0 \\ \hline \ldots\ldots \end{array}$$

(28) **In the opposite figure :**

ABCD is rectangle , then complete :

$\overline{AD}$ .... $\overline{BC}$ (// or ⊥)



(29) Draw the triangle ABC in which AB = 3 cm. , BC = 4 cm. and m (∠ B) = 90° , then complete :

[a] AC = ... cm.

[b] The type of the triangle according to its side lengths is ....

[c] The type of the triangle according to its angles is ....

22 Luxor Governorate

Luxor Educational Directorate
Maths Supervision

محافظة الأقصر

Answer the following questions :

1 Choose the correct answer :

(1) The smallest even prime number is .... (2 or 7 or 3)

(2) The place value of the digit 5 in the number 7 352 064 is .... (hundreds or ten thousands or thousands)

(3) 52 326 + 2 452 = ... (58 774 or 57 748 or 54 778)

(4) In the triangle XYZ , (∠ X) = 40° , (∠ Y) = 50°, then (∠ Z) = ... (70° or 60° or 90°)

(5) The square whose side length is 3 cm. , its perimeter is .... cm. (12 or 9 or 15)

(6) The number .... is a multiple of 2 (73 or 26 or 55)

(7) Rectangle its length is 5 cm. and its width is 3 cm. , then its area = ... cm^2. (8 or 15 or 10)

(8) 7 323 546 102 .... 8 953 204 126 (< or = or >)

(9) Million is the smallest number formed from .... digits. (5 or 8 or 7)

(10) Eighteen million , five hundred sixty two thousand , one hundred and twelve is .... (81 112 625 or 18 562 112 or 1 800 562 112)

(11) The triangle whose sides are equal in length is called .... triangle. (scalene or equilateral or isosceles)

(12) The number .... is divisible by 5 and 2 (502 or 120 or 963)

(13) 6 millions + 237 thousands + 123 = ...
(6 237 123 or 623 712 or 6 123 273)

(14) 25 thousands = ... (2 500 or 250 000 or 25 000)

2 Complete the following :

(1) The smallest number formed from the digits 9 , 5 , 7 , 8 , 1 , 2 is ....

(2) The perimeter of the square = ... × ....

(3) 44 × 11 = ...

(4) 7 m. = ... dm.

(5) The two diagonals are equal in length in each of .... and ....

(6) .... is a common multiple of all numbers.

(7) The two perpendicular straight lines form four .... angles.

(8) $\frac{1}{2}$ million = ...

3 Answer the following :

(1)
$$\begin{array}{r} 9\,5\,4\,3\,6\,7\,2 \\ -\,7\,4\,3\,3\,6\,5\,1 \\ \hline \dots\dots\dots \end{array}$$

(2) A rectangle its length is 6 cm. and its width is 4 cm. , then complete :

[a] Its perimeter = (.............. + ...) × .... = ... cm.

[b] Its area = ... × .... = ... cm^2.

(3) Factorize each of 4 and 12 , then find H.C.F and L.C.M.

4	12

4 = ... × ....

12 = ... × .... × ....

[a] H.C.F. = ...

[b] L.C.M. = ...

(4) Draw a square ABCD whose side length is 4 cm. , then draw its diagonals $\overline{AC}$ and $\overline{BD}$ intersecting at M

23 Aswan Governorate

Aswan Educational Directorate
El-Mostqbal Language School

Answer the following questions :

1 Choose the correct answer :

(1) The place value of the digit 3 in the number 376 542 is ....
(thousands or ten thousands or hundred thousands or millions)

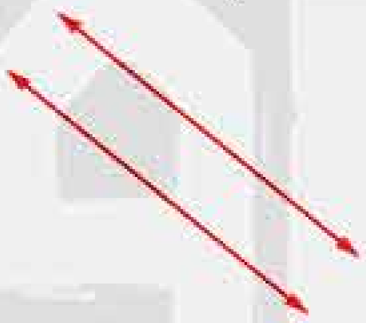
(2) The four sides are equal in length in square and ....
(rhombus or parallelogram or rectangle or trapezium)

(3) 5 000 millions = ... milliards
(50 000 or 5000 or 500 or 5)

(4) The H.C.F. for 2 and 4 is .... (2 or 4 or 6 or 8)

(5) Area of the square = side length × ....
(diagonal length or side length or perimeter or area)

(6) The number .... is divisible by 2
(137 or 151 or 5 224 or 6 143)

(7) The two straight lines  are .... lines.
(intersecting or perpendicular or parallel)

(8) 2 256 912 – 1 145 810 = ...
(1 111 102 or 3 022 222 or 333 300 or 444 400)

(9) The million is the smallest number that formed from .... digits.
(5 or 6 or 7 or 8)

(10) 2 km. = ... m. (200 or 2 000 or 20 000 or 200 000)

(11) The L.C.M. for 3 and 7 is .... (10 or 21 or 28 or 35)

(12) 87 562 + 5 429 = ...
(92 991 or 94 992 or 94 993 or 95 994)

(13) The number whose prime factors are 2 , 3 and 5 is ....
(20 or 30 or 40 or 50)

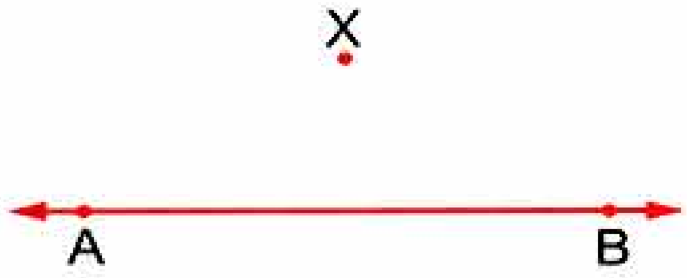
(14) The number 45 is a multiple of the number ....
(2 or 5 or 6 or 7)

2 **Complete each of the following :**

(1) The perimeter of square whose side length is 3 cm. = ... cm.

(2) 3 636 ÷ 18 = ...

(3) Draw a perpendicular from the point X on the given straight line $\overleftrightarrow{AB}$



(4) 7 m^2 = ... cm^2

(5) 39 857 – 14 583 = ...

(6) The H.C.F. of the numbers 6 and 9 is ....

(7) 123 × 15 = ...

(8) The triangle whose the lengths of its sides are 6 cm. , 4 cm. , 6 cm. is .... triangle.

3 **Answer the following :**

(1) Add :

```
   8 7 5 2 0 1 3
 +   4 3 9 8 1 5
 ---------------
 ...............
```

(2) Subtract :

```
   7 3 6 5 8 4
 – 1 5 2 0 3 7
 -------------
 .............
```

(3) Find the area of the rectangle whose dimensions are 8 cm. and 5 cm.
Area of the rectangle = ... = ... cm^2

(4) Draw the triangle ABC in which
AB = 7 cm. , m (∠ A) = 40° and m (∠ B) = 70°
What is the type of the triangle according the measures of its angles ?

24 South Sinai Governorate

El-Tur Educational Zone
Maths Inspection

Answer the following questions :

1 **Choose the correct answer :**

(1) 71 millions , 435 thousands and 12 is written as ....
(71 124 350 **or** 714 350 **or** 15 **or** 71 435 012)

(2) 25 × 7 × 4 = ... (53 **or** 700 **or** 28 **or** 70)

(3) The triangle whose side lengths are 7 cm. , 4 cm. , 7 cm. is ....
(scalene triangle *or* equilateral triangle *or* right-angle triangle *or* isosceles triangle)

(4) 8 007 003 000 .... 9 milliards. (> *or* < *or* = *or* ≥)

(5) The smallest prime number is .... (0 *or* 1 *or* 4 *or* 2)

(6) 5 dm. = ... cm. (5 *or* 50 *or* 500 *or* 5 000)

(7) The number 105 is divisible by 3 and ....
(2 *or* 5 *or* 6 *or* 8)

(8) 70 070 ÷ 35 = ... (2 002 *or* 202 *or* 220 *or* 2 200)

(9) The sum of the measures of interior angles of a triangle is ....°
(90 *or* 120 *or* 180 *or* 360)

(10) The value of the digit 7 in the number 27 351 is ....
(70 000 *or* 7 000 *or* 700 *or* 70)

(11) The measure of any angle of the square = ...°
(45 *or* 35 *or* 90 *or* 120)

(12) $\frac{1}{2}$ million pounds = ... pounds.
(50 thousands *or* 5 000 000 *or* 5 000 *or* 500 thousands)

(13) The length of the taxi = ...
(4 km. *or* 40 m. *or* 400 cm. *or* 40 000 cm.)

(14) The number whose prime factors are 2 , 5 and 7 is ....
(35 *or* 70 *or* 14 *or* 52)

2 Complete the following :

(1) $3\frac{1}{2}$ km. = ... m.

(2) The four sides are equal in length in .... and ....

(3) 7 815 100 + 1 475 987 = ...

(4) The factors of the number 7 are ....

(5) The common multiple for all numbers is ....

(6) The place value of the digit 3 in the number 736 542 is ....

(7) The polygon which has no diagonals is ....

(8) If the perimeter of a square is 28 cm. , then its side length = ... cm.

3 **Answer the following :**

(1) Find L.C.M. for the two numbers 8 and 6

....

....

....

(2) Find the result :

$123 \times 15 =$ ....

(3) If the dimensions of a rectangle are 8 cm. and 5 cm. , find its area.

....

(4) Draw Δ ABC in which BC = 4 cm.

, m ($\angle$ B) = 30° , m ($\angle$ C) = 80°

25 Matrouh Governorate

Mathematics Inspection

Answer the following questions :

1 **Choose the correct answer :**

(1) The number .... is divisible by 2 , 3 and 5 (6 *or* 10 *or* 30)

(2) The perimeter of a square of side length 4 cm. .... the perimeter of a rectangle whose dimensions are 5 cm. and 3 cm.

(> *or* < *or* =)

(3) The H.C.F. of 4 and 6 is .... (2 *or* 3 *or* 6)

(4) The nearest number of the result of 7 815 100 + 1 475 987 is ....

(9 millions *or* milliard *or* 990 millions)

(5) The smallest prime number is .... (0 *or* 1 *or* 2)

(6) The place value of the digit 3 in the number 736 542 is ....

(thousands *or* ten thousands *or* hundred thousands)

(7) 3 millions , 57 thousands and 9 is written as ....

(375 009 *or* 3 057 009 *or* 3 579)

(8) The sum of the measures of the interior angles of a triangle is ....

(60° *or* 90° *or* 180°)

(9) All sides are equal in length in the ....
(square or rectangle or parallelogram)

(10) 10 km. = ... m. (10 or 100 or 10 000)

(11) $4 \times 7 \times 25 =$ .... (70 or 700 or 7 000)

(12) The number .... is a multiple of 5 (12 or 16 or 20)

(13) 117×6 ☐ 117×5 (< or > or =)

(14) The common multiple of all the numbers is .... (0 or 1 or 2)

2 Complete the following :

(1) $7\,070 \div 35 =$ ....

(2) 15 dm. = ... cm.

(3) The rectangle whose dimensions are 7 cm. and 3 cm. , then its area = ... cm^2.

(4) The value of the digit 4 in the number 546 789 is ....

(5) 7 123 459 – 6 millions = ...

(6) The diagonals are equal in length in .... and ....

(7) The smallest number formed from 10 digits is ....

(8) The triangle whose side lengths are different is called .... triangle.

3 Answer the following :

(1) Find the H.C.F. and the L.C.M. for the numbers 16 and 24

....

....

....

....

(2) A hotel contains 234 rooms divided equally among a number of floors, each floor contains 18 rooms, how many floors are there in this hotel ?

....

(3) The perimeter of a square is 32 cm. , find its area.

....

....

(4) Draw the triangle ABC in which
AB = 5 cm. , m (∠ A) = 40° and
m (∠ B) = 50°
Calculate m (∠ C) , then determine the type of the triangle according to the measures of its angles.

Guide Answers of the Main Book



REVISION 1

First :

(1) 40 000 (2) <
(3) 12 (4) 4 590
(5) 90° (6) circle
(7) one thousand (8) 9 999
(9) 13 008 (10) obtuse
(11) 2 400 (12) 9 407
(13) = (14) sphere

Second :

(15) ninety thousand and six
(16) ray
(17) 68 297 (18) 400 + 8 000
(19) ten thousands (20) 5 000

Third :

(21) [a] obtuse [b] B
[c] $\overline{BA}$, $\overline{BC}$ [d] 120°
(22) The perimeter = 2 + 3 + 5 + 6 = 16 cm.
(23) The share of each one = 248 ÷ 4
= 62 pounds.
(24) zero (25) 42 354
(26) 5
(27) The number of pupils in each group
= 42 ÷ 6 = 7 pupils.
(28) The number = 1 000 – 734 = 266
(29) [a] right [b] obtuse
[c] acute
(30) The total price of the toys = 13 × 5
= 65 pounds.

REVISION 2

First :

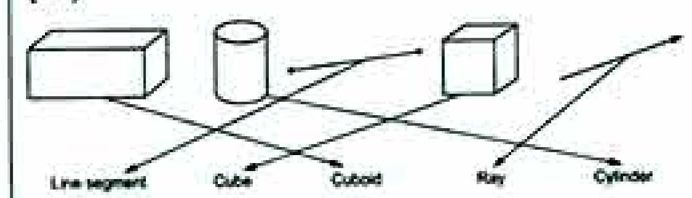
(1) six (2) 9
(3) 3 826 (4) 5 068
(5) thousands (6) 12
(7) 7 + 60 + 4 000 (8) 2 974 < 3 947
(9) 200 (10) 9
(11) – (12) 98 657
(13) an ascending order (14) 4

Second :

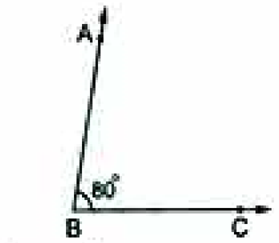
(15) 1 200 (16) 5 047
(17) 2 233 (18) 812
(19) 138 (20) 8

Third :

(21) The perimeter = 6 + 8 + 10 = 24 cm.
(22) 3 kilometres = 3 000 m. , 4 000 cm. = 40 m.
The order is : 4 000 cm. , 500 metres
, 2 000 metres and 3 kilometres.
(23) The price of books = 13 × 3 = L.E. 39
The total she paid = 61 + 39 = L.E. 100
The remainder = 130 – 100 = L.E. 30
(24)



(25) [a] < [b] = [c] =
(26) [a] 10 [b] 12 , 6
(27) [a] < [b] =
[c] > [d] >
(28) The greatest number is 64 210
The smallest number is 10 246
(29) The share of each son = 960 ÷ 3
= 320 pounds.
(30)



Its type is acute.

Unit One

Exercise 1

1

	Number	Thousands H	Thousands T	Thousands U	H	T	U
[a]	478 621	4	7	8	6	2	1
[b]	670 345	6	7	0	3	4	5
[c]	100 064	1	0	0	0	6	4
[d]	78 539	0	7	8	5	3	9
[e]	58 002	0	5	8	0	0	2

2 [a] Ten thousands [b] Ten thousands
[c] Hundreds [d] Tens
[e] Thousands [f] Hundred thousands

3 [a] 40 [b] 5 000 [c] 0
[d] 2 [e] 400 000 [f] 30 000

4 [a] 278 628 [b] 70 593 [c] 603 008
[d] 200 702 [e] 179 012

5 [a] Four hundred fifty-two thousand , seven hundred and ten.
[b] Five hundred thirty-one thousand , four hundred and ninety-seven.
[c] Two hundred ten thousand.
[d] Seven hundred forty thousand , seven hundred and forty.
[e] Three hundred eight thousand and one.
[f] Three hundred thousand , four hundred and eighteen.
[g] Eighty five thousand and sixty-nine.

6 [a] 423 516
Four hundred twenty-three thousand , five hundred and sixteen.
[b] 150 314
One hundred fifty thousand , three hundred and fourteen.
[c] 510 720
Five hundred ten thousand , seven hundred and twenty.

7 [a] 516 853 = 516 000 + 853
= 500 000 + **10 000** + **6 000** + **800** + **50** + **3**
[b] 298 676 = 298 000 + **676**
= **200 000** + **90 000** + **8 000** + **600** + **70** + **6**
[c] 126 459 = **126 000** + 459
= **100 000** + **20 000** + **6 000** + **400** + **50** + **9**
[d] 35 608 = **35 000** + 608
= **30 000** + **5 000** + **600** + **8**
[e] 130 460 = **130 000** + **460**
= **100 000** + **30 000** + **400** + **60**

8
710 710 — 1 710 + 70 000
710 + 71 000 — 710 + 710 000 — 71 710
10 + 700 + 710 000 — 10 + 700 + 71 000

9 [a] 56 [b] 2 800 [c] 256
[d] 3 000 [e] 550 [f] 8 500

10 [a] > [b] < [c] > [d] > [e] >
[f] < [g] = [h] > [i] > [j] =

11 [a] The greatest number is : 876 521
The smallest number is : 125 678
[b] The greatest number is : 654 321
The smallest number is : 123 456
[c] The greatest number is : 875 320
The smallest number is : 203 578
[d] The greatest number is : 776 332
The smallest number is : 233 677

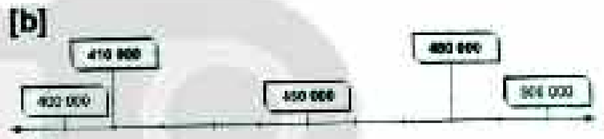
12 [a] 740 654 , 750 654
[b] 360 000 , 460 000
[c] 390 300 , 380 300
[d] 100 598 , 100 608
[e] 250 579 , 250 479

13 [a] 80 000 [b] 100 900
[c] 100 500 [d] 90 000

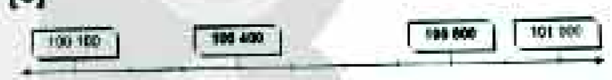
14 [a]



[b]



[c]



Think and answer

[a] 99 999 [b] 999 999 [c] 100 000
[d] 987 654 [e] 102 345 [f] 987 654
[g] 102 346 [h] 987 653 [i] 102 345
[j] 543 210 [k] 102 347 [l] 987 652
[m] 102 534

Exercise 2

1

	Number	Millions H	Millions T	Millions U	Thousands H	Thousands T	Thousands U	H	T	U
[a]	714 326 518	7	1	4	3	2	6	5	1	8
[b]	753 009 300	7	5	3	0	0	9	3	0	0
[c]	7 354 621	0	0	7	3	5	4	6	2	1
[d]	8 000 300	0	0	8	0	0	0	3	0	0
[e]	923 508	0	0	0	9	2	3	5	0	8

2 [a] 400 000 [b] 60 000 000
[c] 4 000 000 [d] 90 000
[e] 0 [f] 3 000
[g] 600 000 000 [h] 5

3 [a] hundred millions [b] millions
[c] ten millions [d] 4 000 000
[e] 900 000 000 [f] 50 thousands
[g] 70 millions

4 [a] 6 548 423 = **6 000 000** + **500 000** + **40 000** + **8 000** + **400** + **20** + **3**
[b] 35 912 450 = **30 000 000** + **5 000 000** + **900 000** + **10 000** + **2 000** + **400** + **50**
[c] 687 510 230 = **600 000 000** + **80 000 000** + **7 000 000** + **500 000** + **10 000** + **200** + **30**
[d] **1 582 941** = 1 000 000 + 500 000 + 80 000 + 2 000 + 900 + 40 + 1
[e] **47 371 605** = 40 000 000 + 7 000 000 + 300 000 + 70 000 + 1 000 + 600 + 5
[f] **70 034 031** = 70 000 000 + 30 000 + 4 000 + 30 + 1
[g] **501 582 941** = 500 000 000 + 1 000 000 + 500 000 + 80 000 + 2 000 + 900 + 40 + 1

5 [a] **564** million , **253** thousand and **601**
[b] **2** million , **687** thousand and **570**
[c] **73** million , **421** thousand and **685**
[d] **600** million , **400** thousand and **200**
[e] **809** million and **5** thousand
[f] **7** million and **5**

6 [a] 840 627 254 [b] 6 412 576
[c] 9 018 072 [d] 4 004 004
[e] 304 000 024

7 [a] 5 984 371 = **5 000 000** + **984 000** + **371**
[b] 23 600 156 = **23 000 000** + **600 000** + **156**
[c] 821 640 906 = **821 000 000** + **640 000** + **906**
[d] 10 800 900 = **10 000 000** + **800 000** + **900**
[e] 6 000 834 = **6 000 000** + **0** + **834**
[f] **6 427 152** = 6 000 000 + 427 000 + 152
[g] **1 230 007** = 1 000 000 + 230 000 + 7
[h] **25 050 023** = 25 000 000 + 50 000 + 23
[i] **302 004 005** = 302 000 000 + 4 000 + 5
[j] **186 000 025** = 186 000 000 + 25

8
1 170 650 — One million , one hundred fifty thousand , six hundred and seventy.
1 150 760 — One million , one hundred seventy thousand , six hundred and fifty.
1 170 560 — One million , one hundred fifty thousand , seven hundred and sixty.
1 150 670 — One million , one hundred seventy thousand , five hundred and sixty.

9 [a] 5 902 431 [b] 24 030 205
[c] 147 200 465
[d] Seven million , nine hundred forty thousand and five hundred.
[e] Seventeen million , two hundred forty-six thousand , seven hundred and ninety-two.
[f] Eight hundred sixteen million , two hundred one thousand , four hundred and eighty.

10 [a] < [b] < [c] > [d] <
[e] < [f] = [g] = [h] >

11 [a] The order is : 3 954 658 , 6 362 012 , 12 158 008 and 102 245 201
[b] The order is : 6 980 017 , 7 005 325 , 7 452 328 and 7 542 684
[c] The order is : 31 107 320 , 32 745 528 , 35 657 066 and 37 518 764
[d] The order is : 888 254 , 987 009 , 1 000 000 and 8 198 214

12 [a] The order is : 833 400 001 , 833 322 165 , 833 322 156 and 83 987 654
[b] The order is : 965 852 664 , 94 987 145 , 9 654 784 and 9 325 997
[c] The order is : 724 571 072 , 24 571 702 , 24 571 270 and 24 571 207
[d] The order is : 70 254 999 , 9 658 458 , 7 025 963 and 702 548

13 [a] 56 360 608 [b] 61 710 425
[c] 500 650 700 [d] 43 051 300
(There are other solutions)

14 [a] 990 999 [b] 5 000 900
[c] 500 000 900 [d] 100 900 000

15 [a] 250 000 [b] 500 000
[c] 750 000

Think and answer

1 123 456 789 and 124 456 789
(There are other solutions)

2 987 654 321 and 987 655 321
(There are other solutions)

Exercise 3

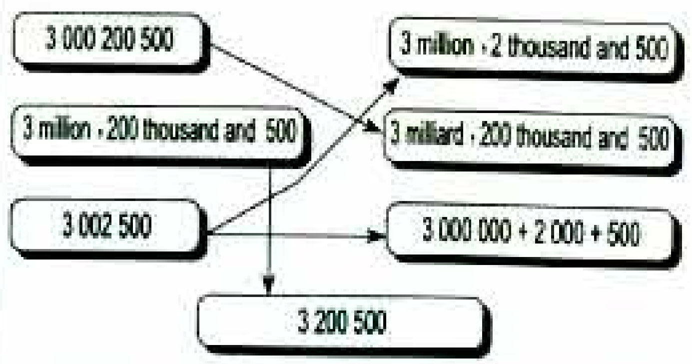
1 [a] 400 000 [b] 1 000 000
[c] 9 000 000 000 [d] 50 000 000 000
[e] 500 000 000 [f] 200 000 000 000

2 [a] milliards [b] hundred thousands
[c] millions [d] hundred millions

3 [a] 7 milliard , **101** million , **264** thousand and **372**
[b] 8 milliard , **719** million , **645** thousand and **302**
[c] 2 milliard , **100** million and **931** thousand
[d] 6 milliard , **539** million , 6 thousand and **475**
[e] 2 milliard , **120** thousand and **888**
[f] 2 milliard , **163** million , **900** thousand and **800**
[g] **32** milliard and **7**

4 [a] 4 147 200 465
[b] 7 000 481 550
[c] 1 809 600 000
[d] Three milliard , three hundred fifty-four million , six hundred four thousand , one hundred and fifty-nine.
[e] Eight milliard , three hundred fifty-seven million , nine hundred fifty thousand , five hundred and one.
[f] Five hundred seventeen million , two hundred fifty-two thousand , nine hundred and one.

5



6 [a] 6 047 000 257 [b] 3 000 000 000
[c] 10 [d] 9 876 543 210

7 [a] > [b] < [c] > [d] < [e] >
[f] > [g] = [h] > [i] > [j] <

8 [a] The order is : 100 209 891 , 1 321 412 821 , 3 822 839 200 and 17 933 222 918
[b] The order is : 4 203 521 022 , 4 213 421 021 , 4 213 521 021 and 4 223 421 020
[c] The order is : 5 380 721 600 , 5 381 520 700 , 5 381 521 600 and 5 831 521 200

9 [a] The order is : 9 616 221 414 , 8 616 400 424 , 8 616 321 424 and 8 161 342 321
[b] The order is : 4 247 000 000 , 3 248 721 000 , 3 247 000 721 and 3 000 247 721
[c] The order is : 14 320 782 332 , 10 321 782 333 , 5 321 782 332 and 4 321 782 332

10 [a] 999 999 990 [b] 2 000 000 020

11 [a] 250 000 000
[b] 500 000 000
[c] 750 000 000

Think and answer

1 [a] 1 451 999 020
[b] 104 847 130
[c] 25 612 314 019
(There are other solutions.)

2 [a] 2 000 000 000 and 1 000 000 000
[b] 1 010 000 000 and 1 000 000 000
[c] 1 001 000 000 and 1 000 000 000
[d] 1 000 100 000 and 1 000 000 000
[e] 1 000 001 000 and 1 000 000 000
(There are other solutions)

Exercise 4

1 [a] 3 995 655 [b] 260 261
[c] 7 993 558 [d] 1 350 222
[e] 9 597 599 [f] 1 111 102
[g] 7 713 819 [h] 3 705 464
[i] 641 047 [j] 2 405 117
[k] 9 476 412 [l] 56 199
[m] 7 393 414 [n] 9 191 828
[o] 6 188 708 [p] 7 404 719
[q] 913 011 [r] 4 485 321

2 [a] 1 051 899 [b] 2 116 597
[c] 4 397 411 [d] 558 245
[e] 14 482 412 [f] 16 968 666
[g] 100 225 [h] 2 771 694
[i] 3 546 239 [j] 2 279 324
[k] 8 984 362 [l] 377 024
[m] 9 209 011 [n] 13 185 080
[o] 1 531 964 [p] 4 869 000

3 [a] (✗) (5 263 237) [b] (✗) (4 222 131)
[c] (✗) (449 467) [d] (✓)
[e] (✗) (5 108 106) [f] (✗) (2 002 688)

4 [a] = [b] = [c] < [d] =
[e] = [f] < [g] > [h] >

5 [a] 4 550 588 [b] 3 251 034
[c] 3 943 011 [d] 251 620
[e] 7 929 902 [f] 14 195 760

6 [a] 241 790 688 [b] 2 187 841
[c] 288 609 212

7 [a]

	3	5	6	7	9	8
+	6	2	1	6	5	8
	9	7	8	4	5	6

[b]

	5	4	3	8	9	8
−	3	0	0	3	5	6
	2	4	3	5	4	2

[c]
  3 1 5 9 6 1
+ 1 6 2 5 4 3
  4 7 8 5 0 4

[d]
  1 0 2 3 7 3 9
−   8 2 4 6 5 7
    1 9 9 0 8 2

[e]
  7 6 6 5 4 3
+ 5 8 3 7 9 8
1 3 5 0 3 4 1

[f]
  3 5 6 2 8 9
− 1 9 5 4 8 7
  1 6 0 8 0 2

[g]
  4 8 7 9 5 3
+   7 5 7 9 2
  5 6 3 7 4 5

[h]
  7 4 8 5 6 9
+ 2 1 7 3 8 5
  9 6 5 9 5 4

[i]
  8 4 0 3 6 8 0
− 4 0 3 8 9 6 5
  4 3 6 4 7 1 5

[j]
  7 0 3 5 0 3 9
− 2 6 4 9 5 5 2
  4 3 8 5 4 8 7

8
[a] one million [b] 200 thousand
[c] ten million [d] 100 thousand
[e] 13 million [f] 5 million
[g] 4 million [h] one hundred thousand
[i] 11 million [j] 5 million

Word Problems

[a] The total number of vaccinated children
= 9 876 543 + 8 456 783
= 18 333 326 children.

[b] The total sum of the fruit exports
= 1 342 006 + 934 567 = 2 276 573 tons.

[c] The amount of increase
= 750 180 000 – 270 250 000
= 479 930 000 pounds.

[d] The amount of increase
= 405 000 000 – 380 000 000
= 25 000 000 pounds.

[e] The difference = 3 267 594 – 2 987 543
= 280 051 toys.

[f] The difference = 3 795 851 – 3 270 624
= 525 227 tourists.

[g] The remainder = 2 235 672 – 1 989 271
= 246 401 computers.

[h] The left distance = 220 000 – 135 000
= 85 000 m.

[i] The total income = 7 800 000 + 700 000
+ 508 000 = 9 008 000 pounds.

[j] What she spent = 235 861 + 2 500 = L.E. 238 361
The remainder money with her
= 2 000 000 – 238 361 = L.E. 1 761 639

Exercise 5

1

[a] 200 + 70 + 1 × 8 = 1 600 + 560 + 8 → 271 × 8 = 2 168

[b] 500 + 30 + 8 × 7 = 3 500 + 210 + 56 → 538 × 7 = 3 766

[c] 7 000 + 300 + 40 + 6 × 6 = 42 000 + 1 800 + 240 + 36 → 7 346 × 6 = 44 076

2 [a] 7 × (200 + 50 + 4) = 1 400 + 350 + 28
= 1 778

[b] 9 × (700 + 80 + 4) = 6 300 + 720 + 36
= 7 056

[c] 6 × (4 000 + 200 + 50 + 9)
= 24 000 + 1 200 + 300 + 54 = 25 554

3
[a] 468 [b] 2 840 [c] 35 021
[d] 29 416 [e] 75 078 [f] 14 427
[g] 665 632 [h] 93 863 [i] 1 322 550
[j] 21 632 526 [k] 39 133 608

4
[a] 22 272 [b] 29 540 [c] 31 302
[d] 560 224 [e] 142 655 [f] 116 760
[g] 7 261 040 [h] 2 722 020

5
[a] 43 × 24: 172 + 860 = 1 032
[b] 28 × 76: 168 + 1 960 = 2 128
[c] 123 × 15: 615 + 1 230 = 1 845
[d] 163 × 82: 326 + 13 040 = 13 366
[e] 357 × 49: 3 213 + 14 280 = 17 493
[f] 904 × 53: 2 712 + 45 200 = 47 912
[g] 5 467 × 84: 21 868 + 437 360 = 459 228
[h] 6 789 × 45: 33 945 + 271 560 = 305 505
[i] 3 785 × 17: 26 495 + 37 850 = 64 345
[j] 2 009 × 53: 6 027 + 100 450 = 106 477
[k] 7 234 × 34: 28 936 + 217 020 = 245 956
[l] 23 278 × 49: 209 502 + 931 120 = 1 140 622
[m] 67 002 1 × 87: 469 014 7 + 536 016 80 = 582 918 27

[n]
```
      4 7 5 2 0 9
  ×           2 3
  ---------------
    1 4 2 5 6 2 7
+   9 5 0 4 1 8 0
  ---------------
  1 0 9 2 9 8 0 7
```

6 [a] 25 × 42 = 25 × (40 + 2)
= 25 × 40 + 25 × 2
= 1 000 + 50 = 1 050

[b] 26 × 174 = 26 × (100 + 70 + 4)
= 26 × 100 + 26 × 70 + 26 × 4
= 2 600 + 1 820 + 104 = 4 524

[c] 619 × 36 = (600 + 10 + 9) × 36
= 600 × 36 + 10 × 36 + 9 × 36
= 21 600 + 360 + 324 = 22 284

7 [a] 1 505 [b] 2 632 [c] 4 032
[d] 13 230 [e] 9 900 [f] 4 806
[g] 43 180 [h] 11 495 [i] 8 284
[j] 4 500 [k] 12

8 [a] 1 725 [b] 1 276 [c] 1 392
[d] 5 472 [e] 16 992 [f] 13 248

9 [a] (✓) [b] (✗) [c] (✗)
[d] (✗)

10 [a] < [b] < [c] > [d] >
[e] = [f] = [g] > [h] <

11 [a]
```
        6   7
  ×     7   4
  -----------
    2  [6]  8
+ 4 [6] 9   0
  -----------
 [4][9][5][8]
```

[b]
```
        6   6
  ×     4   3
  -----------
    1  [9] [8]
+ [2] 6 [4]  0
  -----------
 [2][8][3][8]
```

[c]
```
          9   1
  ×       6   3
  -------------
    [2]  [7]  3
+ [5] [4] 6   0
  -------------
 [5] [7] [3] [3]
```

[d]
```
        2   2   5
  ×         3   7
  ---------------
    1  [5] [7]  5
+  [6]  7  [5]  0
  ---------------
   [8] [3] [2] [5]
```

[e]
```
         1   3   4
  ×          7   6
  ----------------
         8  [0]  4
+  [9]   3  [8]  0
  ----------------
 [1] [0] [1] [8] [4]
```

[f]
```
   [6]  4   5
  ×         7
  -----------
  4  5  [1] 5
```

12 [a] 5 × 76 × 20 = 5 × 20 × 76 = (5 × 20) × 76
= 100 × 76 = 7 600

[b] 8 × 31 × 125 = 8 × 125 × 31
= (8 × 125) × 31
= 1 000 × 31 = 31 000

[c] 25 × 59 × 4 = 25 × 4 × 59 = (25 × 4) × 59
= 100 × 59 = 5 900

[d] 20 × 69 × 50 = 20 × 50 × 69
= (20 × 50) × 69
= 1 000 × 69 = 69 000

[e] 5 × 277 × 2 = 227 × 5 × 2 = 277 × (5 × 2)
= 277 × 10 = 2 770

[f] 4 × 83 × 250 = 83 × 4 × 250
= 83 × (4 × 250)
= 83 × 1 000 = 83 000

13 [a] 110 000 [b] 200 thousand
[c] one million [d] six thousand

Word Problems

[a] Mohamed saves = 9 × 3 455 = P.T. 31 095

[b] The number of the pupils = 19 × 45
= 855 pupils.

[c] The total cost price = 398 × 45 = L.E. 17 910

[d] The total number of computers = 425 × 12
= 5 100 computers.

[e] All the passengers paid = 30 × 215
= L.E. 6 450

[f] The price of meat = 18 × 95 = L.E. 1 710
The price of juice = 16 × 17 = L.E. 272
The family paid = 1 710 + 272 = L.E. 1 982

[g] The price of building steel = 9 450 × 15
= L.E. 141 750
The price of cement = 55 × 845 = L.E. 46 475
The man paid = 141 750 + 46 475
= L.E. 188 225

[h] The price of fridges = 1 245 × 25 = L.E. 31 125
The cost of transportation = L.E. 175
The trader paid = 31 125 + 175 = L.E. 31 300

[i] Amount of instalments = 250 × 20 = L.E. 5 000
The price of the living room
= 2 850 + 5 000 = L.E. 7 850

[j] The price of 35 boxes of soft drink
= 47 × 35 = L.E. 1 645
, the left money = 2 465 – 1 645 = L.E. 820

Think and answer

[a]
```
          [3]  2   4
  ×           [5]  4
  ------------------
      1   2   [9] [6]
+ 1   6   2    0   0
  ------------------
 [1] [7] [4]  [9] [6]
```

[b]
```
          [9]  3   5
  ×           [2]  8
  ------------------
      7   4   [8] [0]
+ [1] [8]  7   0   0
  ------------------
 [2] [6] [1]  [8] [0]
```

[c]
```
             [3] 4 [0] 4 [0] 8
  ×                      7   5
  ----------------------------
          1   7  0  2  0   4  0
+ [2] [3] [8] [2] [8] [5] [6] [0]
  ----------------------------
  [2] [5] [5] [3] [0] [6] [0] [0]
```

Exercise 6

1 [a] 655 ÷ 5 = (600 + 50 + 5) ÷ 5
= (500 +150 + 5) ÷ 5
= (500 ÷ 5) + (150 ÷ 5) + (5 ÷ 5)
= 100 + 30 + 1 = 131

[b] 896 ÷ 4 = (800 + 90 + 6) ÷ 4
= (800 + 80 + 16) ÷ 4
= (800 ÷ 4) + (80 ÷ 4) + (16 ÷ 4)
= 200 + 20 + 4 = 224

2 [a] 191 [b] 345 [c] 473
[d] 162 [e] 121 [f] 171
[g] 121 [h] 131 [i] 46
[j] 173 [k] 148 [l] 833
[m] 716 [n] 918 [o] 1 645
[p] 50 102 [q] 30 010 [r] 6 535

3 [a] 66 [b] 98 [c] 74 [d] 104
[e] 134 [f] 143 [g] 156

4

	Operation	Dividend	Divisor	Quotient	Remainder	Relation between these elements
[a]	77 ÷ 9	77	9	8	5	77 = 9 × 8 + 5
[b]	52 ÷ 3	52	3	17	1	52 = 3 × 17 + 1
[c]	67 ÷ 5	67	5	13	2	67 = 5 × 13 + 2
[d]	84 ÷ 9	84	9	9	3	84 = 9 × 9 + 3
[e]	52 ÷ 4	52	4	13	0	52 = 4 × 13
[f]	654 ÷ 3	654	3	218	0	654 = 3 × 218
[g]	65 ÷ 7	65	7	9	2	65 = 9 × 7 + 2

5 [a] 25 [b] 38 [c] 24
[d] 34 [e] 43 [f] 46
[g] 134 [h] 57 [i] 37
[j] 31 [k] 765 [l] 897

6 [a] 34 and the remainder is 0
[b] 55 and the remainder is 13
[c] 333 and the remainder is 3
[d] 2 020 and the remainder is 4
[e] 2 002 and the remainder is 0
[f] 4 004 and the remainder is 0

7 [a] (✗) [b] (✗) [c] (✗)
[d] (✓) [e] (✗) [f] (✓)

8 [a] 205 [b] 604 [c] 803 [d] 307
[e] zero [f] 16 [g] 248

9 [a] = [b] = [c] >
[d] < [e] = [f] =

10 [a] > [b] = [c] >

11 [a] 458 [b] 29 [c] 13 291 = **458** × 29 + **9**

12 [a] 103 002 [b] 11 766 [c] 66 [d] 2 502
[e] 36 [f] 10 000 [g] 4 [h] 36
[i] 229 , 14 [j] 5 631

13 [a] 162 702 [b] 77

Word Problems

[a] The price of each stove = 25 940 ÷ 5
= L.E. 5 188

[b] He covers in one hour = 24 480 ÷ 6
= 4 080 metres.

[c] She saved in one month = 4 975 ÷ 5
= P.T. 995

[d] The number of pupils in each class = 756 ÷ 18
= 42 pupils.

[e] The number of books = 9 000 ÷ 375
= 24 books.

[f] The number of litres = 570 ÷ 15
= 38 litres.

[g] The value of instalments = 1 660 – 340
= L.E. 1 320
The value of each instalment = 1 320 ÷ 24
= L.E. 55

[h] The value of instalments = 168 940 – 100 000
= L.E. 68 940
The value of each instalment = 68 940 ÷ 18
= L.E. 3 830

[i] The price of one metre = 286 ÷ 26 = L.E. 11
The price of 8 metres = 8 × 11 = L.E. 88

[j] The number of boxes = 2 458 ÷ 36
= 68 boxes.
and 10 pencils will be left over.

[k]

```
      40              63
 18 ⟌ 732        15 ⟌ 956
   – 72            – 90
     12              56
   –  0            – 45
     12              11
```

(1) The number of boxes used for packaging the first item = 40
The number of boxes used for packaging the second item = 63
The greatest number of boxes consumed by the factory daily = 40 + 63 = 103 boxes.

(2) The daily remainder from first kind
= 12 units.
The daily remainder from second kind
= 11 units.

Think and answer

```
         789
 24 ⟌ 18936
    – 168
       213
     – 192
        216
      – 216
        000
```

[a] 789 and the remainder is 4
[b] 788 and the remainder is 19

Activities of unit 1

1 [a] 1 023 456 789 [b] 9 876 543 210
[c] 1 023 456 798 [d] 9 876 543 201
[e] 1 245 678 903 [f] 9 876 321 054

2 4 056 , 4 965 , 5 964

3 ◯ = 10 000 000 △ = 1
□ = 1 000 ⬡ = 1 000 000
(Try to find other solutions)

4 [a] 250 000 000 pounds
[b] 500 000 000 pounds
[c] 750 000 000 pounds

5 [a] 2 000 millions
[b] 3 500 millions
[c] 10 000 millions

Test on unit one

1 (1) 10 (2) 10 572 016
(3) > (4) 700
(5) 954 321 (6) 40 000
(7) 987 654 (8) 1 565 178
(9) 8 millions (10) 4

2 (11) 8 238 023 (12) 461 879
(13) 19 975 (14) 204
(15) millions (16) 100

3 (17) The number of tourists in the two years
= 3 570 831 + 4 025 944
= 7 596 775 tourists

(18) The order is : 409 538 , 415 328
, 427 138 and 435 182

(19) The number = (488 × 11) + 4 = 5 372

(20) The rest = 4 420 – 500 = L.E. 3 920
The value of each instalment
= 3 920 ÷ 28 = L.E. 140

Unit Two

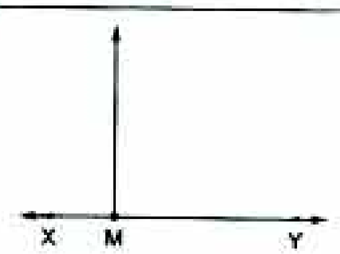
Exercise 7

1 [a] intersecting and not perpendicular.
[b] parallel.
[c] intersecting and perpendicular.
[d] intersecting and not perpendicular.
[e] intersecting and perpendicular.
[f] parallel.

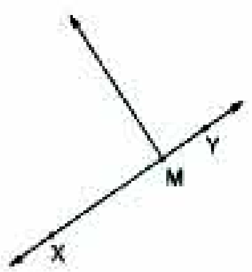
2 [a] Two intersecting lines.
[b] Two perpendicular lines.
[c] Two intersecting lines.
[d] Two parallel lines.
[e] Two intersecting lines.
[f] Two perpendicular lines.

3 [a] parallel. [b] perpendicular.
[c] one point. [d] zero points. [e] 4
[f] intersecting and not perpendicular.
[g] perpendicular.
[h] intersecting and not perpendicular.

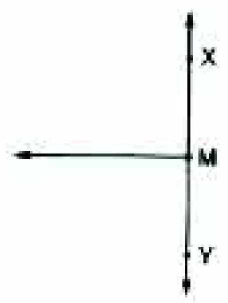
4 [a]



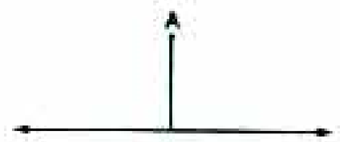
[b]



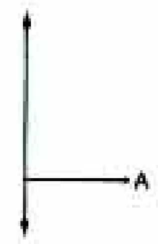
[c]



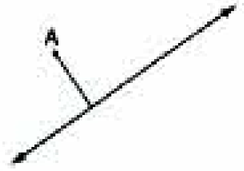
5 [a]



[b]



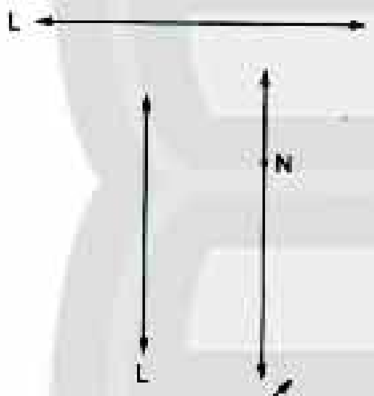
[c]



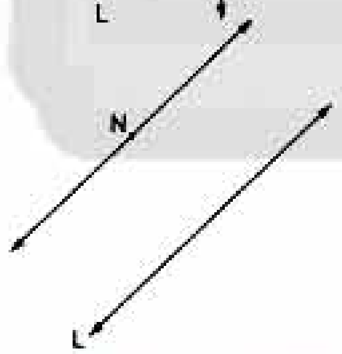
6 [a]



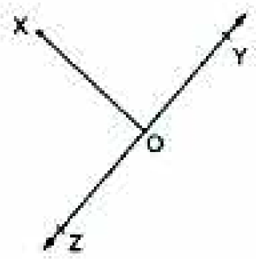
[b]



[c]



7



m (∠ XOZ) = 90°

8 Draw by yourself.

9 Draw by yourself.
[a] 4 cm. [b] Rectangle.
[c] The perimeter = (6 + 4) × 2 = 20 cm.

10 F , N , Z , H **11** 5 , 4

12 [a] Blue and red. [b] Blue and red.
[c] Green and black.

13 [a] Red and blue. [b] Red and green.
[c] Blue and green.

14 [a] // [b] ⊥ [c] ⊥

15 [a] ⊥ [b] // [c] ⊥ [d] ⊥
[e] // [f] ⊥ [g] //

16 [a] ⊥ [b] // [c] //
[d] C [e] A

17 [a] $\overleftrightarrow{AD}$ [b] $\overline{BD}$ [c] $\overrightarrow{AD}$
[d] $\overleftrightarrow{AB}$ [e] $\overrightarrow{BD}$ [f] $\overrightarrow{AE}$

18 [a] $\overleftrightarrow{CE}$ [b] $\overline{DC}$, $\overline{AB}$ [c] $\overrightarrow{DC}$
[d] $\overleftrightarrow{AC}$ [e] E [f] A

Think and answer

[a] (✗) [b] (✓) [c] (✗)
[d] (✗) [e] (✓) [f] (✗)

Exercise 8

1 [a] ⟶ (2) [b] ⟶ (1)
[c] ⟶ (6) [d] ⟶ (4)
[e] ⟶ (5)

2 [a] quadrilateral [b] 6 , triangle
[c] 5 [d] two
[e] trapezium.
[f] rectangle , square , parallelogram , rhombus.
[g] rectangle , square , parallelogram , rhombus.
[h] square , rhombus.
[i] square , rectangle.
[j] square , rectangle. [k] square , rhombus.
[l] equal in length , parallel.
[m] equal in length , bisect each other.
[n] right

3 [a] (✓) [b] (✓) [c] (✓)
[d] (✗) , are equal in length
[e] (✗) , two pairs [f] (✓)
[g] (✗) , 90° [h] (✗) , pentagon
[i] (✓) [j] (✓) [k] (✓)

4 [a] In the square , the two diagonals are perpendicular but in the rectangle , they are not perpendicular.
[b] In the rhombus , the four sides are equal in length but in the parallelogram , each two opposite sides are equal in length.
[c] The square is a shape but the cube is a solid.
"There are other solutions".

5 Draw by yourself.

6 [a] $\overline{BC}$ [b] $\overline{DC}$
[c] trapezium [d] 20 cm.
[e] 12 cm.

7 Draw by yourself.
[a] BC , CD , DA , 4 [b] $\overline{DC}$, $\overline{AD}$
[c] $\overline{AD}$ "or $\overline{BC}$" , $\overline{DA}$ "or $\overline{CB}$" , $\overline{AC}$

8 Draw by yourself.
AC = 5 cm. and BD = 5 cm.
We notice that : AC = BD

9 Draw by yourself.
[a] LZ , 5 , XL , 2 [b] $\overline{LZ}$, $\overline{XL}$ "or $\overline{YZ}$"
[c] $\overline{XL}$, $\overline{XY}$ "or $\overline{ZL}$"

10 Where : the width = $\frac{1}{2}$ of the length
Then : the width = $\frac{1}{2}$ × 10 = 5 cm.
Draw by yourself.
The perimeter = (width + length) × 2
= (5 + 10) × 2 = 30 cm.

Think and answer

Draw by yourself.
The figure NXDY is rectangle.
And by measuring : XN = 3 cm. , NY = 2 cm. , DY = 3 cm. and DX = 2 cm.
Then the perimeter of XNYD = (3 + 2) × 2
= 10 cm.

Exercise 9

1 [a] right [b] obtuse [c] acute
[d] right [e] obtuse [f] acute
[g] right [h] acute

2 [a] isosceles [b] scalene
[c] equilateral [d] isosceles
[e] scalene [f] equilateral

3 [a] three , three [b] equal in length.
[c] two [d] 180°
[e] 90° [f] 5 , 5
[g] 60° [h] 77°
[i] 55° [j] 51°

4 [a] scalene [b] isosceles [c] 4
[d] a right [e] an acute-angled

5 [a] (✗) [b] (✓) [c] (✓) [d] (✗)
[e] (✗) [f] (✗) [g] (✓) [h] (✗)
[i] (✓)

6 [a] < [b] = [c] < [d] = [e] > [f] =

7 [a] 52° [b] 54° [c] 43°
[d] 77° [e] 111° [f] 52°
[g] 90° [h] 60°

8 [a] and [c]

9 Draw by yourself.

10 Draw by yourself.
LN = 5 cm.
The perimeter = 3 + 4 + 5 = 12 cm.

11 Draw by yourself.
[a] XZ = 6 cm.
[b] Equilateral triangle.
[c] Acute-angled triangle.

12 Draw by yourself.
[a] 100° [b] 45° [c] 55°
[d] Acute-angled triangle , scalene triangle.

13 Draw by yourself.
Acute-angled triangle , isosceles triangle

14 Draw by yourself.

15 Draw by yourself.
YZ = 5 cm.

16 Draw by yourself.
[a] 60° [b] YZ = 5 cm. , XZ = 5 cm.
[c] Acute-angled triangle.

17 Draw by yourself.
[a] 70° [b] Acute-angled triangle.
[c] Isosceles triangle.

18 Draw by yourself.
[a] 90°
[b] Right-angled triangle , scalene triangle.

19 Draw by yourself.
XZ = 10 cm. , m (∠ X) = 30°

Think and answer

Draw by yourself.
m (∠ C) = 180° – [70° + 30°] = 80°
- The type of Δ ABC according to the measures of its angles is acute-angled triangle.
- The type of Δ ABC according to the lengths of its sides is scalene.

Activities of unit 2

1 Draw it by yourself.

2 [a] 6 points [b] 15 points
[c] 9 points [d] 24 points

Test on unit two

1 (1) perpendicular (2) isosceles
(3) pentagon (4) obtuse
(5) zero points (6) 180
(7) $\overline{AC}$ (8) rhombus
(9) 50° (10) rectangle

2 (11) 2 (12) intersecting
(13) rectangle , square (14) scalene
(15) heptagon
(16) trapezium

3 (17) Draw by yourself.
(18) Draw by yourself.
[a] 3 [b] 5
(19) Draw by yourself.
The length of $\overline{AC}$ = 5 cm.
(20) Draw by yourself.
[a] 4 [b] 90
[c] right

Unit Three

Exercise 10

1 [a] 3 , 6 , 12 , 15 and 30
[b] 0 , 10 , 20 and 25
[c] 6 , 12 , 18 , 24 , 42 and 60
[d] 10 , 20 and 50
[e] 0 , 12 , 24 , 48 and 60
(There are other solutions for each item)

2 [a] 26 , 4 , 2 , 20 [b] 15 , 21 , 3 , 12
[c] 15 , 40 , 5 , 20 [d] 16 , 32 , 48
[e] 11 , 33 , 77 [f] 0 , 20 , 40

3 [a] 48 [b] 49 [c] 30 [d] 0 [e] 36 [f] 0

4 [a] 12 = 3 × 4 [b] 21 = 7 × 3
[c] 56 = 8 × 7 [d] **40** , 40 = 5 × 8
[e] **42** , **42** = 6 × 7 [f] **150** , 150 = **10** × 15

5 [a] 18 , 20 , 22 , 24 , 26 , 28
[b] 12 , 15 , 18
[c] 15 , 20 , 25 , 30 , 35 , 40
[d] 18 , 27 , 36 , 45 , 54
[e] 0 , 2 , 4 , 6 , 8
[f] 0 , 3 , 6 , 9 , 12 , 15 , 18
[g] 0 , 4 , 8 , 12 , 16 , 20 , 24 , 28
[h] 0 , 8 , 16 , 24 , 32 , 40

6 [a] **20** < 24 < **30** [b] **10** < 11 < **20**
[c] **40** < 43 < **50** [d] **70** < 76 < **80**
[e] **60** < 69 < **70** [f] **90** < 95 < **100**

7 [a] **10** < 11 < **15** [b] **25** < 26 < **30**
[c] **40** < 42 < **45** [d] **60** < 62 < **65**
[e] **70** < 74 < **75** [f] **80** < 83 < **85**

8 [a] 28 = 7 × **4** , **7** , **4**
[b] 42 = 6 × **7** , **6** , **7**
[c] 45 = 5 × **9** , **5** , **9**
[d] 60 = 10 × **6** , **10** , **6**
[e] 88 = 11 × **8** , **11** , **8**

9 2 ⟶ [8 , 12 , 30]
3 ⟶ [12 , 15 , 21 , 30]
5 ⟶ [15 , 30]

10 [a] 0 , 15 , 30 and 45
[b] 0 , 6 , 12 , 18 and 24
[c] 30 , 40 , 50 , 60 and 70
[d] 0 , 30 , 60 and 90

11 [a] Do it by yourself.
[b] 0 , 6 , 12 , 18 , 24 , 30 , 36 , 42 and 48 / 2 , 3 / 6
[c] 2 , 4 , 8 , 14 , 16 , 22 , 26 , 28 , 32 , 34 , 38 , 44 , 46 / 2 / 3 , 5
[d] 10 , 20 , 30 , 40 / 2 , 5 / 10
[e] 5 , 25 , 35 / 5 / 2 , 3

12 24 (There are other solutions.)

13 28 (There are other solutions.)

14 36 pupils.

Think and answer

1 105 books. **2** 6 o'clock

Exercise 11

1

	Division	Quotient	Remainder	Divisibility
[a]	48 ÷ 8	6	0	48 is divisible by 8
[b]	46 ÷ 5	9	1	46 is not divisible by 5
[c]	38 ÷ 5	7	3	38 is not divisible by 5
[d]	42 ÷ 7	6	0	42 is divisible by 7
[e]	270 ÷ 270	1	0	270 is divisible by 270
[f]	612 ÷ 6	102	0	612 is divisible by 6

2 [a] 28 is not divisible by 8 because **28 ÷ 8 = 3** and the remainder = **4** , hence 28 is not **a multiple** of 8
[b] 53 is **not divisible** by 7 because **53 ÷ 7 = 7** and the remainder = **4** , hence 53 is **not a multiple** of 7
[c] 72 is **divisible** by 9 because **72 ÷ 9 = 8** and the remainder = **0** , hence 72 is **a multiple** of 9
[d] 0 is **divisible** by 7 because **0 ÷ 7 = 0** and the remainder = **0** , hence 0 is **a multiple** of 7

3 [a] 7 × 9 = **63** , then **63** is a multiple of each of **7** and **9** and also is divisible by each of **7** and **9**
[b] 8 × 6 = **48** , then **48** is a multiple of each of **8** and **6** and also is divisible by each of **8** and **6**
[c] 5 × 11 = **55** , then **55** is a multiple of each of **5** and **11** and also is divisible by each of **5** and **11**
[d] 9 × 10 = **90** , then **90** is a multiple of each of **9** and **10** and also is divisible by each of **9** and **10**
[e] 4 × **101** = 404 , then **404** is a multiple of each of **4** and **101** and also is divisible by each of **4** and **101**
[f] 5 × **30** = 150 , then **150** is a multiple of each of **5** and **30** and also is divisible by each of **5** and **30**

4 [a] not divisible [b] divisible
[c] divisible [d] divisible
[e] divisible [f] divisible

5 [a] (✓) [b] (✗) [c] (✗)
[d] (✓) [e] (✓) [f] (✗)

6 [a] 3 [b] 2 [c] 6
[d] 5 [e] 3 [f] 3
[g] both 2 and 5 [h] 2 , 3 and 5
[i] 4 125 [j] 750 [k] 9

7 [a] 18 , 102 , 5 224 [b] 33 , 73 410 , 1 278
[c] 125 , 1 460 , 4 265 [d] 600 , 330
[e] 241 , 10 253 [f] 23 , 127
[g] 4 239 , 5 501

8 [a] 6 , 30 and 150 [b] 0 , 20 and 200
[c] 30 , 60 and 210 [d] 0 , 30 and 90
(There are other solutions)

9 [a] even [b] 0 or 5 [c] itself [d] 1
[e] 3 [f] 1 [g] 6 [h] 3
[i] 0 [j] 985 [k] 9 999

10 [a] 34 , 36 , 38 , 40 , 42 , 44 , 46
[b] 70 , 75 , 80 , 85 , 90 , 95 , 100 , 105
[c] 410 , 420 , 430 , 440 , 450
[d] 30 , 45 , 60 [e] 90 , 120 , 150
[f] 3 333 , 6 666 , 9 999
[g] 5 555

11 [a] 102 , 999 [b] 1 000 , 9 995
[c] 10 005 , 99 990 [d] 10 001 , 99 999
[e] 1 020 , 9 990 [f] 10 245 , 98 760

12 [a] 0 "or 2 or 4 or 6 or 8" [b] 2 "or 5 or 8"
[c] 0 "or 6" [d] 0
[e] 2 "or 5 or 8" [f] 5

13 7 560 , 7 650 , 7 605
(There are other solutions.)

Think and answer

I am 49

Exercise 12

1 [a] 14: 1 × 14, 2 × 7 — 1 , 2 , 7 , 14
[b] 16: 1 × 16, 2 × 8, 4 × 4 — 1 , 2 , 4 , 8 , 16
[c] 36: 1 × 36, 2 × 18, 3 × 12, 4 × 9, 6 × 6 — 1 , 2 , 3 , 4 , 6 , 9 , 12 , 18 , 36
[d] 56: 1 × 56, 2 × 28, 4 × 14, 7 × 8 — 1 , 2 , 4 , 7 , 8 , 14 , 28 , 56

2 [a] $9 = 1 \times 9 = 3 \times 3$, 1 , 3 and 9

[b] $24 = 1 \times 24 = 2 \times 12 = 3 \times 8 = 4 \times 6$

, 1 , 2 , 3 , 4 , 6 , 8 , 12 and 24

[c] $42 = 1 \times 42 = 2 \times 21 = 3 \times 14 = 6 \times 7$

, 1 , 2 , 3 , 6 , 7 , 14 , 21 and 42

[d] $88 = 1 \times 88 = 2 \times 44 = 4 \times 22 = 8 \times 11$

, 1 , 2 , 4 , 8 , 11 , 22 , 44 and 88

[e] $100 = 1 \times 100 = 2 \times 50 = 4 \times 25 = 5 \times 20$

$= 10 \times 10$

, 1 , 2 , 4 , 5 , 10 , 20 , 25 , 50 and 100

[f] $120 = 1 \times 120 = 2 \times 60 = 3 \times 40$

$= 4 \times 30 = 5 \times 24 = 6 \times 20 = 8 \times 15$

$= 10 \times 12$

, 1 , 2 , 3 , 4 , 5 , 6 , 8 , 10 , 12 , 15

, 20 , 24 , 30 , 40 , 60 and 120

3 [a] 3 , 6 , 90 [b] 5 , 10 , 50

[c] 6 , 30 , 60 [d] 2 , 1 , 3

(There are other solutions)

4 [b] is a factor of [c] is a factor of

[d] is a factor of [e] is a factor of

[f] is not a factor of [g] is a factor of

[h] is a factor of [i] is not a factor of

[j] is a factor of

5 [a] → (5) , [b] → (3) , [c] → (1)

[d] → (4) , [e] → (2)

6 [a] (✓) [b] (✗) [c] (✗)

[d] (✓) [e] (✓) [f] (✗)

7 [a] 1 , 2 , 4 [b] 1 , 7

[c] 1 , 11 [d] 1 , 2 , 7 , 14

[e] 1 , 2 , 4 , 7 , 14 , 28

[f] 1 , 2 , 3 , 4 , 6 , 9 , 12 , 18 , 36

[g] 1 , 2 , 13 , 26 [h] 1 , 2 , 19 , 38

[i] 1 , 2 , 3 , 4 , 6 , 8 , 12 , 16 , 24 , 48

[j] 1 , 2 , 3 , 6 , 9 , 18 , 27 , 54

[k] 1 , 2 , 4 , 8 , 16 , 32 , 64

[l] 1 , 3 , 5 , 15 , 25 , 75

8

The number	12	16	28	30
Its factors	1 , 2 , 3 , 4 , 6 and 12	1 , 2 , 4 , 8 and 16	1 , 2 , 4 , 7 , 14 and 28	1 , 2 , 3 , 5 , 6 , 10 , 15 and 30
The number of its factors	6	5	6	8

9 [a] 50 [b] 354 [c] 210 [d] 610

[e] 936 [f] 2 [g] 9 [h] 1

[i] 3 [j] 5

Think and answer

[a] 4 , 9 [b] 1 [c] 4 [d] 11

Exercise 13

1 [a] prime number. [b] non-prime number.

[c] non-prime number.

[d] prime number. [e] non-prime number.

[f] prime number. [g] non-prime number.

[h] prime number. [i] non-prime number.

[j] prime number. [k] non-prime number.

[l] prime number.

2 [a] 1 , 7 , prime.

[b] 1 , 2 , 4 , 8 , 16 , non-prime.

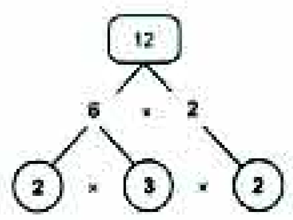
[c] 1 , 31 , prime.

[d] 1 , 3 , 9 , 27 , non-prime.

[e] 1 , 3 , 13 , 39 , non-prime.

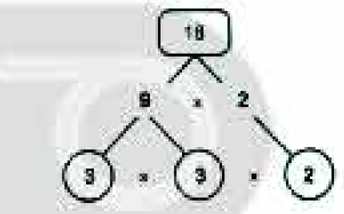
[f] 1 , 47 , prime.

3 [a]



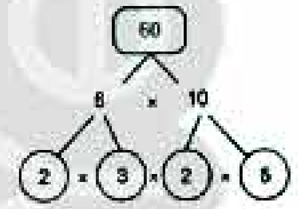
The prime factors of 12 are 2 , 2 and 3

[b]



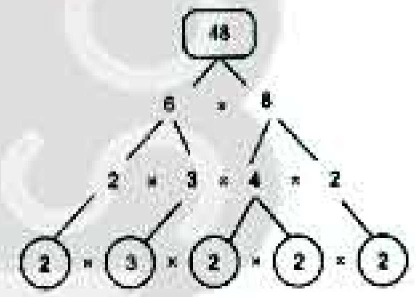
The prime factors of 18 are 3 , 3 and 2

[c]



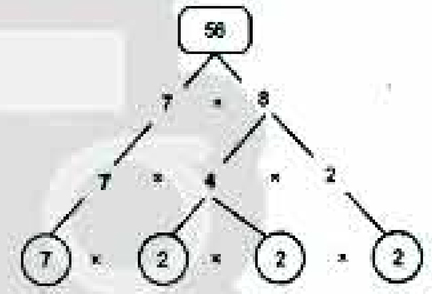
The prime factors of 60 are 2 , 2 , 3 and 5

[d]



The prime factors of 48 are 2 , 2 , 2 , 2 and 3

[e]



The prime factors of 56 are 2 , 2 , 2 and 7

4 [a]

24	2
12	2
6	2
3	3
1	

$24 = 2 \times 2 \times 2 \times 3$

[b]

16	2
8	2
4	2
2	2
1	

$16 = 2 \times 2 \times 2 \times 2$

[c]

10	2
5	5
1	

$10 = 2 \times 5$

[d]

42	2
21	3
7	7
1	

$42 = 2 \times 3 \times 7$

[e]

26	2
13	13
1	

$26 = 2 \times 13$

[f]

81	3
27	3
9	3
3	3
1	

$81 = 3 \times 3 \times 3 \times 3$

[g]

120	2
60	2
30	2
15	3
5	5
1	

$120 = 2 \times 2 \times 2 \times 3 \times 5$

[h]

96	2
48	2
24	2
12	2
6	2
3	3
1	

$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$

[i]

84	2
42	2
21	3
7	7
1	

$84 = 2 \times 2 \times 3 \times 7$

[j]

72	2
36	2
18	2
9	3
3	3
1	

$72 = 2 \times 2 \times 2 \times 3 \times 3$

[k]

51	3
17	17
1	

$51 = 3 \times 17$

5 [a] (✗) [b] (✗) [c] (✗)
[d] (✗) [e] (✗) [f] (✗)
[g] (✓) [h] (✓) [i] (✗)
[j] (✗) [k] (✗)

6 [a] 19 [b] 2 [c] 3 [d] 47
[e] 1 [f] 97 [g] 213 [h] 42
[i] 70 [j] 130 [k] 2

7 [a] 2 [b] 1 , itself.
[c] it has only one factor. [d] 11
[e] 61 and 67 [f] 2 , prime
[g] non-prime "or composite" , 4
[h] 2 , 7 [i] 19 [j] 2 , 3 , 5
[k] 330 [l] 72 [m] 7
[n] 1 [o] 2 [p] 3 [q] 5

8 [a] 2 , 7 and 29 [b] 107
[c] 191 and 241

9 [a] 132 = 2 × 2 × 3 × 11
[b] 112 = 2 × 2 × 2 × 2 × 7
[c] 400 = 2 × 2 × 2 × 2 × 5 × 5
[d] 702 = 2 × 3 × 3 × 3 × 13
[e] 888 = 2 × 2 × 2 × 3 × 37
[f] 275 = 5 × 5 × 11

10 2 , 3 , 5 , 7 , 11 , 13 , 17 , 19 , 23 and 29

11 47 , 53 , 59 and 61

12 6 , 8 , 9 , 10 , 12 , 14 , 15 , 16 , 18 , 20 , 21 and 22

13 72 , 48

Think and answer

I am 7 325

Exercise 14

1 [a] • The factors of 15 are ① , 3 , ⑤ and 15
• The factors of 25 are ① , ⑤ and 25
• The common factors of 15 and 25 are **1 and 5**
• The (H.C.F.) of 15 and 25 is **5**

[b] • The factors of 7 are ① and ⑦
• The factors of 14 are ① , 2 , ⑦ and 14
• The common factors of 7 and 14 are **1 and 7**
• The (H.C.F.) of 7 and 14 is **7**

[c] • The factors of 18 are
① , ② , ③ , ⑥ , **9 and 18**
• The factors of 24 are ① , ② , ③ , **4** , ⑥ , **8** , **12 and 24**
• The factors of 36 are ① , ② , ③ , **4** , ⑥ , **9** , **12** , **18 and 36**
• The common factors of 18 , 24 and 36 are **1** , **2** , **3** and **6**
• The (H.C.F.) of 18 , 24 and 36 is **6**

2 [a] 18 = 2 × 3 × 3
24 = 2 × 2 × 2 × 3
H.C.F. = 2 × 3 = 6

[b] 28 = 2 × 2 × 7
42 = 2 × 3 × 7
H.C.F. = 2 × 7 = 14

[c] 54 = 2 × 3 × 3 × 3
18 = 2 × 3 × 3
H.C.F. = 2 × 3 × 3 = 18

[d] 24 = 2 × 2 × 2 × 3
40 = 2 × 2 × 2 × 5
72 = 2 × 2 × 2 × 3 × 3
H.C.F. = 2 × 2 × 2 = 8

[e] 60 = 2 × 2 × 3 × 5
75 = 3 × 5 × 5
45 = 3 × 5 × 3
H.C.F. = 3 × 5 = 15

3 [a] All factors of 16 : 1 , 2 , 4 , 8 and 16
All factors of 20 : 1 , 2 , 4 , 5 , 10 and 20
[b] The common factors of 16 and 20 are
1 , 2 and 4
[c] The H.C.F. of 16 and 20 is 4

4 [a] (✗) [b] (✗) [c] (✗) [d] (✗)
[e] (✗) [f] (✗) [g] (✗) [h] (✗)
[i] (✗) [j] (✗)

5 [a] 7 [b] 12 [c] 11 [d] 15

6 [a] 1 , 2 , 4 , 5 , 10 and 20 [b] 1
[c] 9 [d] 32 [e] 25

7 [a] 1 and 2 [b] 1 , 2 , 4 and 8
[c] 1 , 2 and 4 [d] 1 and 17
[e] 1 , 3 and 9 [f] 1 , 3 , 7 and 21
[g] 1 and 5 [h] 1 , 2 , 7 and 14
[i] 1 , 2 , 3 , 4 , 6 and 12

8 [a] The common factors are : 1 , 2 and 4
H.C.F. = 4
[b] The common factors are : 1 and 7
H.C.F. = 7
[c] The common factors are : 1 and 3
H.C.F. = 3
[d] The common factors are : 1 , 3 and 9
H.C.F. = 9
[e] The common factors are : 1 , 3 , 13 and 39
H.C.F. = 39
[f] The common factors are : 1 , 2 , 3 , 4 , 6 and 12
H.C.F. = 12
[g] The common factors are : 1 and 2
H.C.F. = 2
[h] The common factors are : 1 and 5
H.C.F. = 5
[i] The common factors are : 1 and 7
H.C.F. = 7

9 [a] 6 = 2 × 3
15 = 3 × 5
H.C.F. = 3

[b] 3 = 3
6 = 3 × 2
18 = 3 × 3 × 2
H.C.F. = 3

[c] H.C.F. = 5 [d] H.C.F. = 6
[e] H.C.F. = 21 [f] H.C.F. = 14
[g] H.C.F. = 12 [h] H.C.F. = 16
[i] H.C.F. = 15

10 [a] H.C.F. = 10 [b] H.C.F. = 7
[c] H.C.F. = 4 [d] H.C.F. = 8
[e] H.C.F. = 3 [f] There is no H.C.F.
[g] H.C.F. = 6 [h] H.C.F. = 23
[i] H.C.F. = 13

11 The first number = **45**
The second number = **60**
Their H.C.F. = **15**

12 7 and 14
, 42 and 77
, 21 and 28 (There are other solutions.)

Think and answer

2 , 4 and 8
, 3 , 6 and 18
, 4 , 12 and 20 (There are other solutions.)

Exercise 15

1 [a] • The multiples of 6 are :
0 , 6 , 12 , ⑱ , 24 , 30 , ㊱ , 42 , 48 , ㊿54 , ...
• The multiples of 9 are :
0 , 9 , ⑱ , 27 , ㊱ , 45 , 54 , ...
• The common multiples of 6 and 9 (other than 0) are :
18 , 36 , 54 , ...
• The (L.C.M.) of 6 and 9 is : **18**

[b] • The multiples of 3 are :
0 , 3 , ⑥ , 9 , ⑫ , 15 , ⑱ , 21 , ㉔ , ...
• The multiples of 6 are :
0 , ⑥ , ⑫ , ⑱ , ㉔ , 30 , ...
• The common multiples of 3 and 6 (other than 0) are :
6 , 12 , 18 , 24 , ...
• The (L.C.M.) of 3 and 6 is : **6**

[c] • The multiples of 7 are :
0 , 7 , ⑭ , 21 , ㉘ , 35 , ㊷ , ...
• The multiples of 14 are :
0 , ⑭ , ㉘ , ㊷ , 56 , ...
• The common multiples of 7 and 14 (other than 0) are : **14 , 28 , 42 , ...**
• The (L.C.M.) of 7 and 14 is : **14**

[d] • The multiples of 6 are :

0 , 6 , 12 , 18 , 24 , (30) , 36 , 42 , 48 , 54 , (60) , ...

• The multiples of 10 are :

0 , 10 , 20 , (30) , 40 , 50 , (60) , ...

• The multiples of 15 are :

0 , 15 , (30) , 45 , (60) , ...

• The common multiples of 6 , 10 and 15 (other than 0) are : 30 , 60 , ...

• The (L.C.M.) of 6 , 10 and 15 is : **30**

2 [a] 15 = 3 × 5
18 = 2 × 3 × 3
L.C.M. = **2 × 3 × 3 × 5 = 90**

[b] 36 = 2 × 2 × 3 × 3
24 = 2 × 2 × 3 × 2
L.C.M. = **2 × 2 × 3 × 3 × 2 = 72**

[c] 12 = 2 × 2 × 3
9 = 3 × 3
18 = 2 × 3 × 3
L.C.M. = **2 × 2 × 3 × 3 = 36**

[d] 6 = 2 × 3
9 = 3 × 3
8 = 2 × 2 × 2
L.C.M. = **2 × 2 × 2 × 3 × 3 = 72**

[e] 4 = 2 × 2
12 = 2 × 2 × 3
15 = 3 × 5
L.C.M. = **2 × 2 × 3 × 5 = 60**

3 [a] 0 , 3 , 6 , 9 , 12 , 15 , 18 , 21 , 24 , 27 , 30 , 33 , 36 , 39 , 42 , 45 , 48 , 51 , 54 , 57 , 60 , 63

[b] 0 , 7 , 14 , 21 , 28 , 35 , 42 , 49 , 56 , 63

[c] 0 , 21 , 42 , 63 [d] 21

4 [a] 0 , 2 , 4 , 6 , 8 , 10 , 12 , 14 , 16 , 18 , 20 , 22 , 24 , 26 , 28 , 30

[b] 0 , 3 , 6 , 9 , 12 , 15 , 18 , 21 , 24 , 27 , 30

[c] 0 , 5 , 10 , 15 , 20 , 25 , 30

[d] 0 and 30 [e] 30

5 [a] (✗) [b] (✗) [c] (✗)
[d] (✗) [e] (✓) [f] (✗)
[g] (✗) [h] (✗) [i] (✗)
[j] (✓)

6 [a] 6 [b] 30 [c] 90 [d] 96

7 [a] 1 [b] 0

[c] 12 and 36 (There are other solutions.)

[d] 4 and 7 (There are other solutions.)

8 [a] 60 , 75 , 90 [b] 60 , 72 , 84 , 96

[c] 56

9 [a] 8 = 2 × 2 × 2

18 = 2 × 3 × 3

[b] The L.C.M. for the numbers 8 and 18

= 2 × 2 × 2 × 3 × 3 = 72

10 10 010 **11** 630

12 The first number = 210

The second number = 165

Their H.C.F. = 15 and their L.C.M. = 2 310

13 The first number = 100

The second number = 140

Their H.C.F. = 20 and their L.C.M. = 700

14 [a] The common multiples are :

0 , 8 , 16 , 24 , ... etc.

L.C.M. = 8

[b] The common multiples are :

0 , 30 , 60 , 90 , ... etc.

L.C.M. = 30

[c] The common multiples are :

0 , 36 , 72 , 108 , ... etc.

L.C.M. = 36

[d] L.C.M. = 40 [e] L.C.M. = 22
[f] L.C.M. = 48 [g] L.C.M. = 18
[h] L.C.M. = 54 [i] L.C.M. = 48

15 [a] L.C.M. = 15 [b] L.C.M. = 24
[c] L.C.M. = 63 [d] L.C.M. = 42
[e] L.C.M. = 176 [f] L.C.M. = 48
[g] L.C.M. = 60 [h] L.C.M. = 630
[i] L.C.M. = 420

16 [a] H.C.F. = 2 and L.C.M. = 84

[b] H.C.F. = 2 and L.C.M. = 180

[c] H.C.F. = 12 and L.C.M. = 72

[d] H.C.F. = 7 and L.C.M. = 210

[e] H.C.F. = 5 and L.C.M. = 450

[f] H.C.F. = 9 and L.C.M. = 270

[g] H.C.F. = 4 and L.C.M. = 2 520

[h] H.C.F. = 2 and L.C.M. = 264

[i] H.C.F. = 8 and L.C.M. = 240

17 The other number is 10

18

First number	Second number	Their H.C.F.	Their L.C.M.
25	40	5	200
24	16	8	48
20	12	4	60

19 [a] 0 , 18 , 36 and 54

(There are other solutions.)

[b] 0 , 70 and 140

(There are other solutions.)

[c] 120 (There are other solutions.) [d] 990

[e] 0 , 8 , 12 , 16 , 20 , 28 , 32 , 36 , 52 and 56

[f] 10 000 [g] 0 , 85 , 170 and 255

20 6 and 8 , 3 and 8 , 12 and 24

(There are other solutions.)

Think and answer

1 On the 12th day from today.

2 • 9 , 12

• 3 , 36 (There are other solutions.)

3 • 6 , 9 • 3 , 18

Activities of unit 3

1 [a] 0 [b] 1

2 First :

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

Second :

[a] 9 , 12 [b] 132 [c] 6 , 9

[d] 12 , 24 , 36 , 48 , 60 , 72 , 84 , 96 , 108 , 120 , 132 and 144

[e] 11 , 22 , 33 , 44 , 55 , 66 , 77 , 88 , 99 , 110 , 121 and 132

Test on unit three

1 (1) 2 (2) 0 (3) 60 (4) 24
(5) 18 (6) 3 and 5 (7) 5 (8) 31
(9) even (10) 3

2 (11) 1 (12) 2 (13) 1 , 2 , 4 and 8
(14) 2 (15) 10 (16) 12

3 (17) 60 = **2 × 2 × 3 × 5**

60	2
30	2
15	3
5	5
1	

(18) H.C.F. = 3 × 7 = 21

(19) L.C.M. = 2 × 2 × 3 × 5 = 60

(20) 24 = 2 × 2 × 2 × 3
30 = 2 × 3 × 5
H.C.F. = 2 × 3 = 6
L.C.M. = 2 × 2 × 2 × 3 × 5
= 120

24	2
12	2
6	2
3	3
1	

30	2
15	3
5	5
1	

Unit Four

Exercise 17

1 [a] 500 [b] 400 [c] 60
[d] 30 [e] 8 000 , 80 000
[f] 90 , 900 [g] 8 000 [h] 200
[i] 4 [j] 300 [k] 7 , 70
[l] 6 , 600 [m] 80 [n] 2 , 20 000
[o] 4 , 40 000 [p] 4 000 , 400 000
[q] 5 , 5 000 [r] 300 , 3

2 [a] The order is : millimetre , decimetre , metre and kilometre.
[b] The order is : millimeter , centimetre , metre and kilometre.
[c] The order is : millimetre , centimetre , decimetre , metre and kilometre.

3 [a] cm. [b] m. [c] km.
[d] m. [e] mm. [f] cm.

4 [a] 5 m. [b] 22 cm.
[c] 160 cm. [d] 150 m.
[e] 200 cm.

5 [a] the side length × 4
[b] (length + width) × 2
[c] the perimeter of the square ÷ 4
[d] length + width
[e] 28 [f] 20 [g] 80
[h] 30 [i] 9 [j] 4

6 [a] (✗) , < [b] (✗) , 3 000 m.
[c] (✓)
[d] (✗) , (length + width) × 2
[e] (✗) , its perimeter ÷ 4 [f] (✓)
[g] (✗) , its perimeter = 20 cm. [h] (✓)
[i] (✗) , a square of side length 7 cm.
[j] (✗) , 14 dm. [k] (✓)

7 [a]

Side length of square	8 cm.	7 dm.	3 m.	11 dm.
Its perimeter	32 cm.	28 dm.	120 dm.	44 dm.

[b]

	Length of rectangle	Width of rectangle	Length + width	Its perimeter
(1)	8 dm.	7 dm.	15 dm.	15 × 2 = 30 dm.
(2)	24 cm.	16 cm.	40 cm.	40 × 2 = 80 cm.
(3)	18 dm.	9 dm.	27 dm.	27 × 2 = 54 dm.
(4)	58 cm.	42 cm.	100 cm.	100 × 2 = 200 cm.

8 [a] The perimeter = 2 × 4 = 8 cm.
[b] The perimeter = (4 + 3) × 2 = 14 cm.
[c] The perimeter = 5 + 6 + 4 = 15 cm.
[d] The perimeter = 2 + 3 + 2 + 2 + 3 + 2
= 14 cm.
[e] The perimeter = 1 + 2 + 1 + 2 + 4 = 10 cm.
[f] The perimeter
= 2 + 2 + 2 + 2 + 1 + 4 + 5 + 4 = 22 cm.

9 [a] The perimeter of the square = 7 × 4
= 28 cm.
[b] The perimeter of the rectangle
= (9 + 6) × 2 = 30 cm.
[c] The perimeter of the square = 3 × 4
= 12 dm.
[d] The perimeter of the rectangle
= (200 + 150) × 2 = 700 cm.
[e] The perimeter of the rectangle
= (30 + 20) × 2 = 100 cm.

10 [a] The perimeter of the rectangle
= (7 + 4) × 2 = 22 cm.
The perimeter of the square
= 6 × 4 = 24 cm.
Then, the perimeter of the square is greater.
[b] The perimeter of the triangle
= 5 + 6 + 7 = 18 cm.
The perimeter of the square
= 4 × 5 = 20 cm.
Then, the perimeter of the square is greater.
[c] The perimeter of the square
= 5 × 4 = 20 cm.
The perimeter of the triangle
= 7 + 7 + 7 = 21 cm.
Then , the perimeter of the triangle is greater.

11 The side length of the square = $\frac{160}{4}$ = 40 cm.

12 The side length of the square = $\frac{4}{4}$ = 1 dm.
= 1 × 10
= 10 cm.

13 The length of the rectangle = width + 2
= 5 + 2 = 7 cm.
The perimeter of the rectangle = (7 + 5) × 2
= 24 cm.

14 The perimeter of the first square
= 5 × 4 = 20 dm. = 20 × 10 = 200 cm.
The perimeter of the second square
= 15 × 4 = 60 cm.
The difference between their perimeter
= 200 – 60 = 140 cm.

15 The perimeter of the square = 12 × 4 = 48 cm.
The perimeter of the rectangle = (7 + 3) × 2
= 20 cm.
The differene between their perimeters
= 48 – 20 = 28 cm.

16 The perimeter of the square = 3 × 4 = 12 cm.
The perimeter of the square = the perimeter of the equilateral triangle
The side length of the triangle = $\frac{12}{3}$ = 4 cm.

17 The perimeter of the rectangle = (5 + 4) × 2
= 18 cm.
The perimeter of the rectangle
= the perimeter of the triangle
The side length of the triangle = $\frac{18}{3}$ = 6 cm.

18 The length of the rectangle = 2 × its width
= 2 × 6 = 12 cm.
The perimeter of the rectangle = (12 + 6) × 2
= 36 cm.

19 The width of the rectangle = $\frac{\text{The length}}{2}$
= $\frac{10}{2}$ = 5 dm.
The perimeter of the rectangle = (10 + 5) × 2
= 30 dm.

20 The perimeter of the rectangle = (10 + 5) × 2
= 30 cm.
The perimeter of the square = 4 × the perimeter of the rectangle = 4 × 30 = 120 cm.
The side length of the square = $\frac{120}{4}$ = 30 cm.

21 The perimeter of the first square = 8 × 4
= 32 m.
The perimeter of the other square
= 76 – 32 = 44 m.
The side length of the other square
= $\frac{44}{4}$ = 11 m.

22 The perimeter of the first square = 4 × 8
= 32 dm.
The perimeter of the other square
= 100 – 32 = 68 dm.
The side length of the other square
= $\frac{68}{4}$ = 17 dm.
[a] The side length of the other square in decimetres = 17 dm.
[b] The side length of the other square in centimetres = 17 × 10 = 170 cm.

23 The perimeter of carpet in the shape of a square = 3 × 4 = 12 m.
The perimeter of carpet in the shape of a square = the perimeter of carpet in the shape of a rectangle.
Half of the perimeter of rectangle = $\frac{12}{2}$
= 6 m.
The length of the rectangle = 6 – 2 = 4 m.

24 The perimeter of the garden = 4 × 18 = 72 m.
The cost of the fence = 72 × 10 = L.E. 720

25 The perimeter of picture = (40 + 60) × 2
= 100 × 2 = 200 cm. = 2 m.
The frame costs = 2 × 3 = L.E. 6

26 The length of the rectangle = 3 × 15 = 45 m.
The perimeter of land = (15 + 45) × 2 = 120 m.

27 The perimeter of picture = (75 + 125) × 2
= 400 cm. = 4 m.
The cost of the frame = 4 × 6 = L.E. 24

28 The perimeter of the remaining part
$= 3 + 5 + 3 + 1 + \frac{1}{2} + 2 + \frac{1}{2} + 1 + \frac{1}{2} + 2 + \frac{1}{2} + 1$
= 20 cm.

29 The length of the wire
= [(70 + 50) × 2] + (30 × 4)
= 240 + 120 = 360 m.

Think and answer

The half of the perimeter of the rectangle
$= \frac{24}{2} = 12$ cm.
Then, the length + the width = 12 cm.
Where, its width $= \frac{1}{2}$ its length
Then, its width = 4 cm. and its length = 8 cm.

Exercise 17

1 [a] 300 [b] 50 000
[c] 800 [d] 700 , 70 000
[e] 6 [f] 500 000
[g] 900 000 000 [h] 27 [i] 8
[j] 9 [k] 6 [l] 70

2 [a] km² [b] cm² [c] m²
[d] m² [e] cm²

3 [a] 75 m² [b] 2 m² [c] 6 m²
[d] 12 cm² [e] 25 cm²

4 [a] side length [b] length × width
[c] the width [d] 25 cm²
[e] 3 dm. [f] 36 cm²
[g] 91 cm² [h] 3 cm.
[i] 24 cm. [j] 10 , 40
[k] 8 , 28

5 [a] (✗) , $\frac{\text{The area}}{\text{The length}}$
[b] (✗) , side length × side length

[c] (✗) , 42 km² = 42 000 000 m²
[d] (✓) [e] (✓) [f] (✓)
[g] (✗) , 32 cm²
[h] (✗) , areas of figures.
[i] (✓) [j] (✓)

6 [a] > [b] < [c] > [d] = [e] <

7 [a]

Side length of square	9 cm.	6 dm.	10 cm.	5 m.
Its area	81 cm²	36 dm²	100 cm²	250 000 cm²

[b]

Length of rectangle	7 m.	60 dm.	8 cm.	3 dm.
Width of rectangle	5 m.	2 m.	6 cm.	20 cm.
Its area	35 m²	12 m²	48 cm²	6 dm²

8 [a] The area of a square = 3 × 3 = 9 cm²
[b] The area of a rectangle = 4 × 10 = 40 cm²
[c] The area of the figure = (8 × 2) + (2 × 2)
= 16 + 4 = 20 cm²
[d] The area of the figure = (2 × 8) + (3 × 3)
= 16 + 9 = 25 cm²

9 [a] The area of the shaded part
= (10 × 10) – (7 × 7) = 100 – 49 = 51 cm²
[b] The area of the shaded part
= (8 × 5) – (4 × 3) = 40 – 12 = 28 cm²
[c] The area of the shaded part
= (7 × 7) – (2 × 5) = 49 – 10 = 39 cm²
[d] The area of the shaded part
= (4 × 9) – [(1 × 5) + (2 × 2)]
= 36 – [5 + 4] = 36 – 9 = 27 cm²

10 [a] The area of a square = 5 × 5 = 25 dm²
[b] The area of a rectangle = 8 × 50 = 400 cm²
[c] The side length of a square $= \frac{28}{4} = 7$ cm.
The area of a square = 7 × 7 = 49 cm²
[d] The width of the rectangle $= \frac{64}{2} - 20$
= 12 cm.
The area of the rectangle = 20 × 12
= 240 cm²

[e] The length of a rectangle = 4 × 8 = 32 cm.
The area of a rectangle = 32 × 8 = 256 cm²
[f] The perimeter of a rectangle = (10 + 8) × 2
= 36 cm.
The perimeter of a square = 36 cm.
The side length of a square $= \frac{36}{4} = 9$ cm.
The area of a square = 9 × 9 = 81 cm²

11 The area of the carpet = 6 × 4 = 24 m.²
The area of the room = 7 × 7 = 49 m.²
The area of the uncovered floor of this room
= 49 – 24 = 25 m.²

12 The area of a square = 20 × 20 = 400 cm²
The area of a rectangle = 400 cm²
Its width $= \frac{400}{25} = 16$ cm.

13 The perimeter of a square = 4 × 10 = 40 cm.
The perimeter of a rectangle = 120 – 40
= 80 cm.
The half of the perimeter of a rectangle
$= \frac{80}{2} = 40$ cm.
The length of a rectangle = 40 – 10 = 30 cm.
The area of a rectangle = 30 × 10 = 300 cm²

14 The perimeter of the first square = 4 × 7
= 28 cm.
The perimeter of the second square = 48 – 28
= 20 cm.
[a] The side length of the second square
$= \frac{20}{4} = 5$ cm.
[b] The area of the first square = 7 × 7
= 49 cm²
The area of the second square = 5 × 5
= 25 cm²
The sum of their areas = 49 + 25 = 74 cm²

15 The area of a rectangular hall = 800 × 600
= 480 000 cm²
The area of the tile = 20 × 20 = 400 cm²
The number of tiles $= \frac{480\ 000}{400} = 1\ 200$ tiles.

16 The area of a rectangular floor = 20 × 10
= 200 m²
The cost of the paving = 200 × 5 = L.E. 1 000

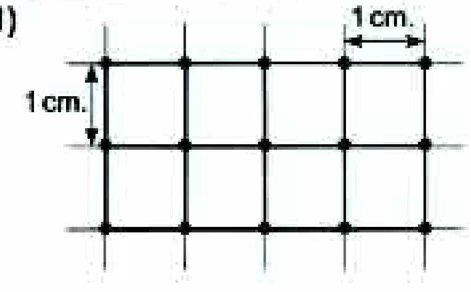
Think and answer

1 Half of the perimeter of a rectangle $= \frac{40}{2}$
= 20 cm.
Length + width = 20 cm.
Length = 3 × width
3 width + width = 20
4 width = 20
The width = 5 cm.
The length = 3 × 5 = 15 cm.
The area = 5 × 15 = 75 cm²

2 [a] **The first method :**
The area of the remaining part
= (6 × 9) – (4 × 4) = 54 – 16 = 38 cm²
The second method :
The area of the remaining part
= (2 × 9) + (3 × 4) + (2 × 4)
= 18 + 12 + 8 = 38 cm²
[b] The perimeter of the remaining part
= 6 + 9 + 6 + 3 + 4 + 4 + 4 + 2 = 38 cm.

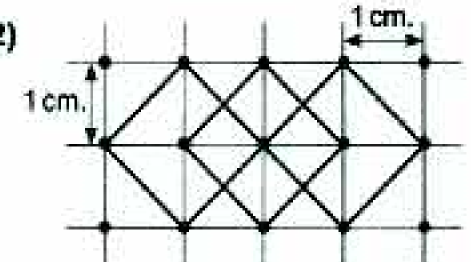
Activities of unit 4

1 [a] (1)



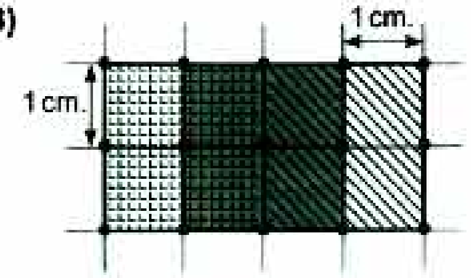
8 squares.

(2)



3 squares.

(3)



3 squares.

[b] (1) 10 rectangles (2) 4 rectangles
(3) 4 rectangles

2 [a] The area = 6 cm^2.
The perimeter = 12 cm.
[b] The area = 18 cm^2.
The perimeter = 20 cm.
[c] The area = 120 cm^2.
The perimeter = 88 cm.

Test on unit four

1 (1) > (2) km. (3) 8 000
(4) 12 (5) = (6) ✗
(7) (7 + 5) × 2 (8) 6 (9) 400
(10) ✓

2 (11) 28 (12) side length × 4
(13) 570 (14) 500 000
(15) 9 (16) 12

3 (17) Draw by yourself.
The perimeter = 6 × 4 = 24 cm.
The area = 6 × 6 = 36 cm^2.
(18) The area of the square = 7 × 7 = 49 cm^2.
The area of the rectangle = 8 × 6 = 48 cm^2.
The area of the square is greater.
(19) The area of the rectangle = 6 × 4 = 24 cm^2.
The area of the square = 3 × 3 = 9 cm^2.
The area of the sheded part = 24 – 9
= 15 cm^2.
(20) The side length of the square = 20 ÷ 4
= 5 cm.
The area of the square = 5 × 5 = 25 cm^2.

Answers of TIMSS qestions

First :

(1) (c)	(2) (d)	(3) (c)	(4) (b)	(5) (d)
(6) (a)	(7) (c)	(8) (c)	(9) (b)	(10) (d)
(11) (b)	(12) (d)	(13) (b)	(14) (b)	(15) (c)
(16) (b)	(17) (c)	(18) (a)	(19) (c)	(20) (b)
(21) (a)	(22) (b)	(23) (b)	(24) (d)	(25) (d)
(26) (c)	(27) (b)	(28) (c)	(29) (c)	(30) (c)
(31) (d)	(32) (c)	(33) (b)	(34) (d)	(35) (b)
(36) (c)	(37) (a)	(38) (b)	(39) (b)	(40) (c)

Second :

(1) [a]

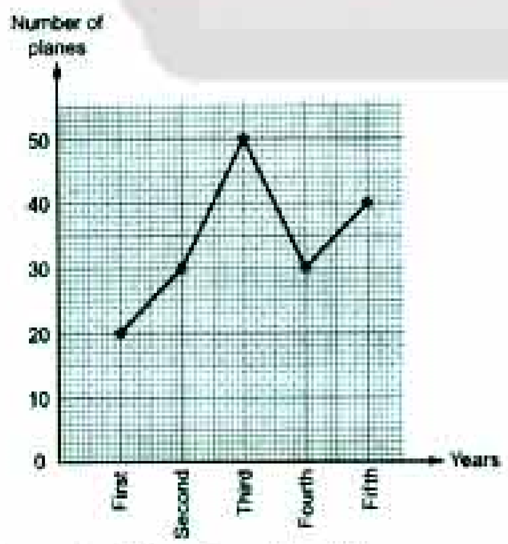
	5	7	8	6
×				6
3	4	7	1	6

[b]

	5	0	7
×			9
4	5	6	3

(2) The sum of lengths of the two sides
= 50 + 40 = 90 m.
The length of the third side = 120 – 90 = 30 m.

(3)



(4) The cost of the schools building
= 9 × 2 647 = 23 823 pounds.

(5) [a] 32 [b] 40

Guide Answers of the Worksheets



Sheet 1

1 [a] (1) Seven hundred sixty-four thousand , nine hundred and twenty-one.
(2) Five hundred three thousand , eight hundred and eighty-six.
(3) Nine hundred eighty-one thousand and twelve.
[b] (1) 537 609 (2) 800 018
(3) 440 919

2 [a] 68 357 = 60 000 + **8 000** + 300 + **50** + 7
[b] 369 017 = **300 000** + **60 000** + 9 000 + 10 + 7
[c] **10 807** = 10 000 + 800 + 0 + 7
[d] **500 040** = 500 000 + 40

3 [a] < [b] = [c] > [d] =

4 [a] (1) The greatest number is : **986 521**
(2) The smallest number is : **125 689**
[b] (1) The order is : 345 796 , 378 562 , 487 652 and 827 153
(2) The order is : 112 212 , 121 122 , 212 112 and 221 112

5 [a] (1) 3 000 (2) 400 000
[b] (1) Ten thousands. (2) Hundreds.

Sheet 2

1 [a] 235 160 478 [b] 37 215 378
[c] **67** millions + **0** thousands + **5** hundreds + **9** tens + **0** units
[d] 3 010 758 [e] 342 000

2 [a] > [b] = [c] < [d] >

3 [a] 80 000 000 [b] 900 000 000
[c] 500 000 [d] 50 000

4 [a] (1) The order is : 4 835 172 , 5 932 648 , 6 358 217 and 6 385 712
(2) The order is : 19 876 542 , 90 518 764 , 92 458 700 and 92 543 699

[b] (1) The order is : 70 500 280 , 69 480 009 , 31 710 420 and 4 987 531
(2) The order is : 708 600 508 , 708 508 800 , 600 580 708 and 580 600 708

5 [a] 783 000 071 [b] 500 000
[c] 8 [d] 3 003 003
[e] 6

Sheet 3

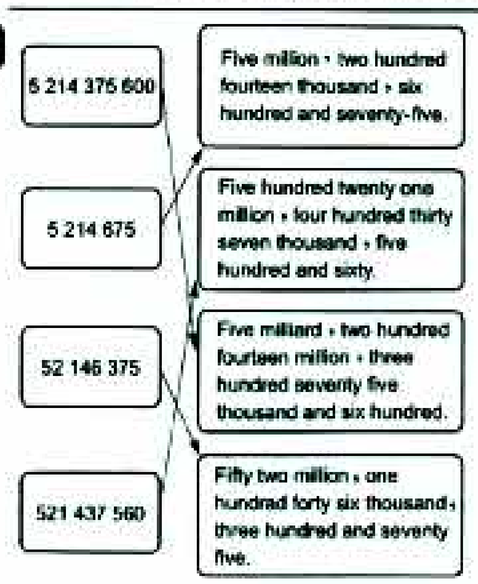
1 [a] **8** milliard + **532** million + **674** thousand + **109**
[b] **31** milliard + **512** million + **924** thousand + **760**
[c] **6** milliard + **210** thousand
[d] **802** milliard + **20**

2 [a] (1) 1 000 000 000 (2) 20 000 000 000
[b] (1) milliards (2) hundred milliards

3 [a] < [b] < [c] = [d] >

4 [a] The order is : 7 milliards , 7 095 348 951 , 7 125 943 528 and 7 521 439 528
[b] (1) Eight milliard , nine hundred seventy-three million , two hundred sixty-five thousand , four hundred and thirteen.
(2) Twenty five milliard , seven hundred six million , four hundred eighty-five thousand , nine hundred and eighty.

5



Sheet 4

1 [a] 8 386 620 [b] 3 613 173
[c] 9 999 999 [d] 6 508 586

2 [a] 271 615 [b] 4 536 471
[c] millions [d] 2 345 789
[e] 99 999 999

3 The total number of tourists
= 1 576 024 + 2 159 817
= 3 735 841 tourists.

4 [a] > [b] = [c] < [d] >

5 The difference = 3 694 273 – 2 863 945
= 830 328 cans.

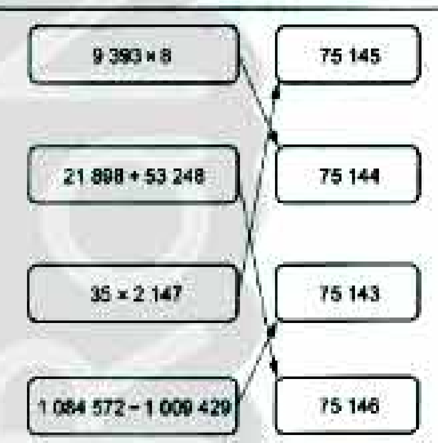
Sheet 5

1 [a] 888 [b] 7 737 [c] 9 036
[d] 24 425 [e] 5 746

2 [a] 106 thousands [b] 800 millions
[c] 70 594 [d] 6 000 [e] one million

3 [a] (1) One millird , eight hundred fifteen million , six hundred thirty-seven thousand , four hundred and nine.
(2) Ninety-eight million , seven hundred twenty-three thousand , six hundred and fourteen.
[b] The order is : 5 764 849 , 3 521 764 , 2 millions and 994 318

4



5 All the passengers paid = 215 × 30
= L.E. 6 450

Sheet 6

1 [a] 256 [b] 142 [c] 615 [d] 1 724

2 [a] 7 [b] < [c] hundred thousands
[d] 9 999 999 999 [e] 261 412

3 [a] (✗) , 225 + 25 = 9 [b] (✓)
[c] (✓) [d] (✗) , 2 034 578
[e] (✗) , >

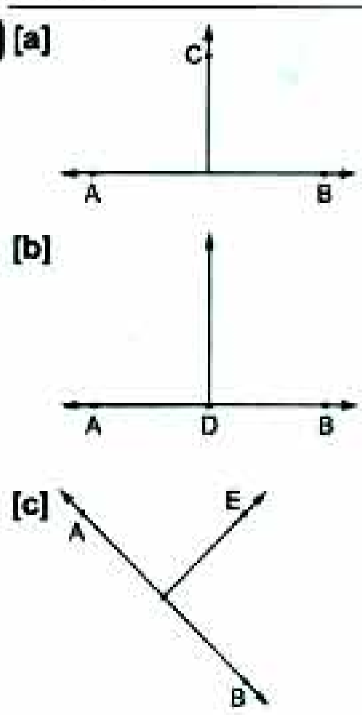
4 The number of tourists that can each bus carry
= 328 ÷ 8 = 41 tourists.

5 [a] The number is : 2 457 + 39 = 63
[b] The number is : 117 × 43 = 5 031

Sheet 7

1 [a] intersecting and not perpendicular
[b] parallel [c] perpendicular

2 [a] [b] [c]



3 [a] rectangle [b] $\overrightarrow{DC}$ [c] $\overrightarrow{DA}$, $\overrightarrow{CB}$
[d] $\overleftrightarrow{EB}$ [e] $\overleftrightarrow{AB}$, $\overleftrightarrow{DC}$

4 [a] ten thousands [b] 9 281 730
[c] 794 588 [d] four [e] parallel

5 The number of pupils in each class
= 756 ÷ 18 = 42 pupils.

Sheet 8

1 [a] equal in length , bisect each other , perpendicular
[b] right
[c] equal in length , parallel
[d] the square , the rhombus
[e] the trapezium

2 [a] (✗) , 9 999 999 [b] (✗) , right
[c] (✓) [d] (✗) , 5
[e] (✓)

3 [a] Draw by yourself.
[b] The total cost price = 98 × 45 = L.E. 4 410

4 Draw by yourself.
[a] XZ = 5 cm. [b] YL = 5 cm.
[c] $\overline{ZL}$ [d] $\overline{YX}$, $\overline{ZL}$

5 The number of passengers
= 364 × 18 = 6 552 passengers.

Sheet 9

1 [a] isosceles [b] an obtuse
[c] 60° [d] 180°
[e] right-angled

2 [a] (✗) , obtuse-angled triangle
[b] (✓) [c] (✓) [d] (✓)
[e] (✗) , 40 000

3 Draw by yourself.
AC = 5 cm.
The perimeter = 3 + 4 + 5 = 12 cm.

4 Draw by yourself.
[a] 60°
[b] YZ = 5 cm. , ZX = 5 cm.
[c] Equilateral triangle , acute-angled triangle

5 Hazem paid = 26 × 725 = P.T. 18 850

Sheet 10

1 [a] 8 , 10 , 4 [b] 14 , 70 , 21 , 7
[c] 8 , 0 , 16 [d] 10 , 5 , 15 , 30

2 [a] zero [b] 24 = 3 × 8
[c] 44 = 11 × 4 , 11 , 4
[d] 7 [e] 700

3 [a] 24 , 30 , 36 , 42 and 48
[b] Draw by yourself.

4 [a] > [b] < [c] = [d] <

5 The rest money = 24 960 – 12 000
= L.E. 12 960
The value of each instalment = 12 960 ÷ 24
= L.E. 540

Sheet 11

1 [a] 816 and 720 [b] 816 , 720 and 1 239
[c] 720 and 4 955

2 [a] 9 215 008 [b] 50 000 000
[c] 70 400 [d] 6 479 897
[e] two

3 [a] (✗) [b] (✓) [c] (✗)
[d] (✗) [e] (✓)

4 The cost of each box = 5 880 ÷ 7 = P.T. 840

5 Draw by yourself.
[a] 30°
[b] Right-angled triangle , Scalene triangle.

Sheet 12

1 [a] (✓) [b] (✗) [c] (✗)
[d] (✓) [e] (✗)

2 [a] 1 , 2 , 7 and 14 [b] 6 [c] 1
[d] 1 , 3 , 7 and 21 [e] 1

3 [a] 50 000 [b] 24 [c] obtuse
[d] 5 [e] 79

4 Draw by yourself.

5 The price of one kg. = 120 ÷ 24 = 5 pounds.

Sheet 13

1 [a] 5 , 2 , 23 and 43
[b] (1) 27 = 3 × 3 × 3
(2) 64 = 2 × 2 × 2 × 2 × 2 × 2
(3) 84 = 2 × 2 × 3 × 7

2 [a] 2 [b] two [c] 2 , 3 and 3
[d] 210 [e] 2

3 [a] 7 [b] 3 [c] 94
[d] 5 [e] prime

4 [a] 6 243 362 [b] 30 660
[c] 786 016 [d] 123

5 [a] Draw by yourself.
(1) 100°
(2) Obtuse-angled triangle
[b] Nada paid = 25 × 475 = P.T. 11 875

Sheet 14

1 [a] 9 [b] 6 [c] 5
[d] 1 [e] 3 , 3 and 5

2 [a] 7 [b] 15 [c] 3
[d] bisecting each other. [e] isosceles

3 [a] 3 , 5 , 7 , 11 , 13 , 17 , 19 , 23 and 29
[b] The prime factors of 60 are
2 , 2 , 3 and 5
[c] 84 = 2 × 2 × 3 × 7

4 [a] 1 214 263 [b] 290 858
[c] 6 075 [d] 53

5 [a] 18 = 2 × 3 × 3
30 = 2 × 3 × 5
42 = 2 × 3 × 7
H.C.F. = 2 × 3 = 6
[b] The price of one metre = 286 ÷ 26 = L.E. 11
The price of 18 metres = 18 × 11 = L.E. 198

Sheet 15

1 [a] 12 = 2 × 2 × 3
14 = 2 × 7
Their H.C.F. = 2 and their L.C.M. = 84
[b] H.C.F. = 2 , L.C.M. = 180
[c] H.C.F. = 14 , L.C.M. = 84
[d] H.C.F. = 4 , L.C.M. = 24

2 [a] (✗) [b] (✓) [c] (✗)
[d] (✗) [e] (✓)

3 [a] millions [b] 131 193
[c] 203 [d] equilateral
[e] the square , the rectangle.

4 [a] (1) < (2) = (3) >
[b] The number of seats = 45 × 12 = 540 seats.

5 Draw by yourself.
[a] BD = 5 cm.
[b] The perimeter = (4 + 3) × 2 = 14 cm.

Sheet 16

1 [a] 9 000 m. [b] 30 dm. = 300 cm.
[c] 7 [d] the side length × 4
[e] 24 cm.

2 [a] The perimeter = 3 + 3 + 5 + 7 = 18 cm.
[b] The perimeter = (6 + 2) × 2 = 16 cm.
[c] The perimeter = 3 × 4 = 12 cm.
[d] The perimeter = (4 + 1) × 2 = 10 cm.

3 [a] The perimeter of the rectangle
= (7 + 4) × 2 = 22 cm.
The perimeter of the square
= 5 × 4 = 20 cm.
The perimeter of the rectangle is greater.
[b] The order is : 6 729 514 , 7 547 213 , 7 901 235 and 8 millions.

4 [a] (✓) [b] (✗) [c] (✓)
[d] (✓) [e] (✗)

5 [a] (1) 35 428 (2) 1 528 510

(3) 3 105 (4) 3 036 459

[b] 28 = 2 × 2 × 7

35 = 5 × 7

L.C.M. = 2 × 2 × 5 × 7 = 140

Sheet 17

1 [a] 9 000 000 m^2

[b] 300 dm^2 = 30 000 cm^2

[c] side length × side length

[d] length × width

[e] equal

2 [a] (1) The area = 3 × 6 = 18 cm^2

(2) The area = 2 × 2 = 4 cm^2

[b] (1) The perimeter of the square

= 5 × 4 = 20 cm.

The area of the square = 5 × 5 = 25 cm^2

(2) The perimeter of the rectangle

= (8 + 4) × 2 = 24 cm.

The area of the rectangle

= 8 × 4 = 32 cm^2

3 [a] 4 087 135

[b] millions , ten thousands

[c] 1 , 5 , 7 and 35 [d] 1 845

[e] 7

4 [a] Draw by yourself.

Its perimeter = 4 × 4 = 16 cm.

Its area = 4 × 4 = 16 cm^2

[b] The number of floors

= 192 ÷ 16 = 12 floors.

5 [a] (1) 124 125 (2) 43

[b] 12 = 2 × 2 × 3

18 = 2 × 3 × 3

H.C.F. = 2 × 3 = 6

L.C.M. = 2 × 2 × 3 × 3 = 36

Guide Answers of Final Examinations 2019



Answers of model examinations of the school book

Model 1

1
(1) 250 000 (2) 7 000
(3) 10 (4) <
(5) 2 (6) 6
(7) 30 (8) 3 003 003
(9) 2 (10) >
(11) 180° (12) square and rectangle
(13) = (14) 100 000

2
(15) 70 (16) 30 000
(17) 300 (18) 9
(19) 24 (20) 11

3
(21) 912 000 (22) 24 474
(23) 700 (24) 201
(25) $24 = 2 \times 2 \times 2 \times 3$
$40 = 2 \times 2 \times 2 \quad \times 5$
H.C.F. $= 2 \times 2 \times 2 = 8$
(26) $m(\angle C) = 180° - (50° + 100°)$
$= 180° - 150° = 30°$
(27) Draw by yourself.
[a] $\overline{CD}$ [b] $\overline{BC}$ or $\overline{AD}$
(28) The number of floors in the hotel
$= 180 \div 15 = 12$ floors.
(29) Draw by yourself.
$m(\angle C) = 90°$
Δ ABC is right-angled triangle.
(30) The area of the rectangle $= 6 \times 5$
$= 30$ cm^2
The area of the square $= 4 \times 4 = 16$ cm^2
The area of shaded part $= 30 - 16$
$= 14$ cm^2

Model 2

1
(1) 250 000 (2) ten thousands
(3) 64 (4) 19
(5) < (6) rhombus
(7) 4 (8) isosceles
(9) 71 425 012 (10) 9 million
(11) 180° (12) 18
(13) 700 (14) 4

2
(15) trapezium (16) 150
(17) 1 565 178 (18) 403
(19) 9 (20) 0

3
(21) 201 (22) 43 795
(23) 15 144 (24) 5 875
(25) 99 900 (26) 100
(27) The rest = 3 500 – 500 = 3 000 pounds.
The value of each instalment
$= 3\,000 \div 25 = 120$ pounds.
(28) The area of the square $= 5 \times 5$
$= 25$ cm^2
The area of the rectangle $= 3 \times 2$
$= 6$ cm^2
The area of the shaded part $= 25 - 6$
$= 19$ cm^2
(29) Draw by yourself.
[a] $m(\angle Z) = 180° - (45° + 45°) = 90°$
[b] Right-angled triangle.
(30) Draw by yourself.
[a] $\overline{CD}$
[b] $(5 + 3) \times 2 = 16$ cm.

Model 3

1
(1) 1 500 hundreds (2) 8
(3) < (4) 90°
(5) 2 (6) 4
(7) 6 000 000
(8) perpendicular and not equal in length
(9) 9 million (10) ten thousands
(11) 6 (12) 16
(13) 202 (14) <
(15) >

2
(16) 32 008 015 (17) 3 500
(18) 1 , 2 , 5 , 10 , 25 and 50
(19) 180 (20) 3

3
(21) 314 033 (22) 61 481
(23) 210 (24) 765 000
(25) 5 664 (26) 8
(27) The order is : 156 842 , 681 542 , 685 421 , 861 542 and 865 421
(28) Draw by yourself.
[a] 60°
[b] Acute-angled triangle.
(29) The area of the outer rectangle $= 6 \times 5$
$= 30$ cm^2
The area of the inner rectangle $= 5 \times 4$
$= 20$ cm^2
The area of the shaded part $= 30 - 20$
$= 10$ cm^2
(30) The share of each worker
$= 7\,316 \div 31 = 236$ pounds.

Model examination for the special needs students

1
(1) 12 (2) 3 057 009
(3) 2 (4) 6
(5) 3 (6) 180
(7) >
(8) an obtuse-angled triangle
(9) 1 000 (10) 100

2
(11) 988 895 (12) 1 001 211
(13) 5 (14) the rectangle
(15) 4

3
(16) 50 000 (17) 500
(18) 100 000 (19) 30
(20) 10

Answers of Schools' Examinations

1 Cairo

1 (1) 5 (2) 2 (3) 1 (4) 10
(5) 2 (6) rhombus
(7) an equilateral (8) $\overline{CD}$
(9) 1 (10) 3
(11) 7 000 077 (12) 10 000 (13) >
(14) hundred thousands

2 (1) equal in length (2) 156
(3) 12 (4) 23 , 29
(5) 3 075 000 (6) 3 000

3 (1) 8 = 2 × 2
12 = 2 × 2 × 3
[a] The H.C.F. of 8 and 12 = 2 × 2 = 4
[b] The L.C.M. of 8 and 12 = 2 × 2 × 2 × 3
= 24

(2) [a] Draw by yourself.
[b] Δ ABC is a right-angled triangle.

(3) The left money = 1 000 000 – 555 000
= 445 000 pounds.

(4) The perimeter = (8 + 2) × 2 = 20 cm.
(5) 27 (6) 9 999 998
(7) The perimeter = 10 × 4 = 40 cm.

2 Cairo

1 (1) 10 (2) 5 and 3 (3) millions
(4) zero (5) 7 (6) 2
(7) bisecting each other

2 (1) 90° (2) 43 795 (3) 1 845
(4) 50 (5) scalene (6) 20

3 (1) 10 572 000 (2) 24
(3) 80 (4) 2 (5) 50°
(6) square (7) 600

4 (1) The price of one metre = 648 ÷ 24
= L.E. 27

(2) 24 = 2 × 2 × 2 × 3
30 = 2 × 3 × 5
H.C.F. = 2 × 3 = 6

(3) 12 175

(4) The area = 7 × 4 = 28 cm^2
The perimeter = (7 + 4) × 2 = 22 cm.
(5) Draw by yourself.

5 (1) 60 = 2 × 2 × 3 × 5
(2) The order is : 41 328 , 42 138 , 42 183 and 43 182
(3) 3 000
(4) Draw by yourself.
(5) The area = 5 × 5 = 25 cm^2

3 Cairo

1 (1) millions (2) 2 and 3
(3) 36 (4) 2
(5) obtuse (6) 72
(7) 625 933 (8) =
(9) square (10) 524 thousands
(11) 75 m^2 (12) <
(13) equilateral (14) 4

2 (1) 1 , 2 , 3 , 6 , 9 , 18 (2) 90°
(3) 350 000 (4) 85 000
(5) 9 548 081 (6) 3 000

3 (1) 22 976 (2) 321 801
(3) 88 800 (4) 101
(5) 15 , 10 (There are other solutions)
(6) 25 144
(7) The number of pupils = 798 ÷ 19
= 42 pupils.
(8) The perimeter = (200 + 150) × 2
= 700 cm.
(9) Draw by yourself.
[a] The length of $\overline{AC}$ = 4 cm.
[b] acute-angled triangle.
(10) [a] The area = 15 cm^2
[b] The perimeter = 16 cm.

4 Giza

1 (1) 6 (2) millions , 8 000 000
(3) 4 000 , 260 (4) 4 , 5
(5) 0 , 7 , 14 , 21 (There are other solutions)
(6) 40 000 , 5 000 000

2 (1) acute (2) one million
(3) 64 (4) 5
(5) 180 (6) 81
(7) 60 (8) 5
(9) 15 (10) 7 000
(11) 9 (12) 49 025 013
(13) square (14) 3 000

3 (1) The area of the rectangle = 7 × 9 = 63 m^2
The area of the square = 5 × 5 = 25 m^2
The area of the shaded part = 63 – 25
= 38 m^2

(2) 24 = 2 × 2 × 2 × 3
30 = 2 × 3 × 5
H.C.F. = 2 × 3 = 6
L.C.M. = 2 × 2 × 2 × 3 × 5 = 120

(3) The number of pupils = 612 ÷ 18
= 34 pupils.

(4) Draw by yourself.
m (∠ C) = 180° – (50° + 70°) = 60°
Δ ABC is an acute-angled triangle.

(5) 12 425 (6) 31 976
(7) = (8) 3 457
(9) 125 , 1 000 , 937 000
(10) 11 , 13 , 17 and 19

5 Giza

1 (1) 2 512 310 715 (2) millions
(3) 7 millions (4) 7
(5) 24 (6) 101
(7) ten million (8) 2
(9) square (10) 180°
(11) 240 (12) 4
(13) 40 cm^2 (14) 500

2 (1) 1 , 2 , 3 and 6 (2) 4
(3) 60° (4) 40 000
(5) hexagon (6) 7

3 (1) 18 648 (2) 5 507 109
(3) 78 200

(4) 16 = 2 × 2 × 2 × 2
24 = 2 × 2 × 2 × 3
H.C.F. = 2 × 2 × 2 = 8
L.C.M. = 2 × 2 × 2 × 2 × 3 = 48

(5) 2 001
(6) The area = 7 × 7 = 49 cm^2
(7) [a] ⊥ [b] //
[c] // [d] ⊥
(8) The area = 3 × 7 = 21 cm^2
(9) Draw by yourself.

6 Alexandria

1 (1) millions (2) 4
(3) 100 375 (4) 100
(5) square (6) 17
(7) 180° (8) 12
(9) 80 (10) an isosceles
(11) > (12) 2
(13) 0 (14) >

2 (1) 2 037 009 (2) 56
(3) 1 , 3 , 5 and 15 (4) scalene
(5) 21
(6) side length × side length

3 (1) 24 = 2 × 2 × 2 × 3
18 = 2 × 3 × 3
H.C.F. = 2 × 3 = 6
L.C.M. = 2 × 2 × 2 × 3 × 3 = 72

(2) Draw by yourself.
Δ ABC is an acute-angled triangle.

(3) Its area = 7 × 3 = 21 cm^2
Its perimeter = (3 + 7) × 2 = 20 cm.

(4) The number of floors = 192 ÷ 16
= 12 floors.

(5) [a] 461 879 [b] 3 055

7 El-Kalyoubia

1 (1) odd (2) >
(3) 1 (4) 90°
(5) 999 millions (6) an obtuse
(7) 105 (8) ten thousands
(9) 4 300 (10) 28 cm.
(11) ⊥ (12) 876 543
(13) 90 000 (14) (5 × 7) + 3

2 (15) equal (16) 8 207 043
(17) parallel (18) 17 000
(19) 405 789 (20) 1 , 2 , 3 , 6
(21) 3 , 3 (22) 30
(23) 12 , 16 (24) 600 , 5
(25) $\frac{16}{21}$

3 (26) 10 = 2 × 5
15 = 5 × 3
H.C.F. = 5
(27) The order is : millimetre , decimetre , metre and kilometre.
(28) 8 000 432
(29) The number of pupils = 20 × 45
= 900 pupils.
(30) Draw by yourself.
The length of $\overline{AC}$ = 5 cm.

8 El-Sharkia

1 (1) 3 (2) millions
(3) 2 (4) =
(5) even (6) 180°
(7) > (8) >
(9) square (10) prime
(11) 18 (12) 85
(13) 0 (14) 1 000

2 (15) 7 (16) 5 500
(17) right angles (18) 50 000 000
(19) 37 900 (20) 1 123 459

3 (21) 18 = 2 × 3 × 3
24 = 2 × 2 × 2 × 3
L.C.M. = 2 × 2 × 2 × 3 × 3 = 72
(22) 975 380 (23) 78 474
(24) 3 726 (25) 2 502
(26) Mazen paid = 125 × 38 = L.E. 4 750
(27) m (∠ C) = 180° – (55° + 80°) = 45°
(28) Length of each side = 36 ÷ 4 = 9 cm.
Area of square = 9 × 9 = 81 cm^2
(29) The perimeter = (12 + 8) × 2 = 40 cm.
(30) Draw by yourself.

9 El-Monofia

1 (1) 45 (2) 800
(3) > (4) 2
(5) 3 (6) diagonals
(7) > (8) 10
(9) 10 873 000 (10) 7
(11) 6 000 000 (12) 5
(13) 732 (14) scalene

2 (1) 2 (2) 6
(3) 15
(4) equal in length , bisecting each other
(5) 305 679 (6) 26

3 (1) 580 491 (2) 737 734
(3) 8 900 (4) 18 318
(5) 24 = 2 × 2 × 2 × 3
18 = 2 × 3 × 3
H.C.F. = 2 × 3 = 6
L.C.M. = 2 × 2 × 2 × 3 × 3 = 72
(6) The area of the rectangle = 6 × 4
= 24 cm^2
The area of the square = 3 × 3
= 9 cm^2
The area of the shaded part = 24 – 9
= 15 cm^2
(7) The number of pupils = 798 ÷ 19
= 42 pupils.

(8) Draw by yourself.
[a] 90
[b] right-angled triangle.

10 El-Gharbia

1 (1) 32 005 024 (2) 5 382
(3) 6 (4) 5
(5) rectangle (6) 24
(7) 61

2 (1) 2 (2) 7
(3) 4 (4) 1
(5) 50 000 (6) 425
(7) 212 293

3 (1) 4 (2) hundred thousands
(3) 180 (4) 30
(5) 32 (6) 240

4 (1) [a] 314 033 [b] 461 879
[c] 1 845
(2) Perimeter of rectangle = (5 + 3) × 2
= 8 × 2 = 16 cm.
(3) The number of tourists in a bus = 328 ÷ 8
= 41 tourists.

5 (1) Draw by yourself.
[a] 90 [b] right
(2) 6 = 2 × 3
9 = 3 × 3
H.C.F. = 3
(3) The order is : 21 987 , 86 458 , 214 569 and 523 145
(4) Side length = 24 ÷ 4 = 6 cm.
Area = 6 × 6 = 36 cm^2

11 El-Dakahlia

1 (1) 23 004 060 (2) millions
(3) 600 (4) 222
(5) 1 (6) 1
(7) 220 (8) 7 000

(9) 4 (10) 9
(11) isosceles (12) 6
(13) 0 (14) 4 and 5

2 (1) rectangle (2) 4 000 000
(3) 9 (4) 4
(5) zero (6) 123 435 089

3 (1) 24 = 2 × 2 × 2 × 3
36 = 2 × 2 × 3 × 3
[a] H.C.F. = 2 × 2 × 3 = 12
[b] L.C.M. = 2 × 2 × 2 × 3 × 3 = 72
(2) [a] The area of the square = 5 × 5
= 25 cm^2
The perimeter of the square
= 5 × 4 = 20 cm.
[b] The area of the rectangle = 6 × 4
= 24 dm^2
The perimeter of the rectangle
= (6 + 4) × 2 = 20 dm.
(3) The number of pupils = 650 ÷ 25
= 26 pupils.
(4) The paid = 35 × 68 = 2 380 pounds.
The remainder = 3 000 – 2 380
= 620 pounds.
(5) Draw by yourself.
[a] m (∠ C) = 180° – (100° + 45°) = 35°
[b] Δ ABC is an obtuse-angled triangle.
[c] Δ ABC is a scalene triangle.
(6) The order is : 321 045 , 897 012 , 1 000 779 , 1 230 145 and 10 007 729
(7) The greatest number is 975 420
The smallest number is 204 579
Their difference = 975 420 – 204 579
= 770 841

12 Ismailia

1 (1) 0 (2) 17
(3) rhombus (4) ×
(5) 2 (6) 2
(7) 3 (8) 30 000

(9) 65 065 000 (10) ✓
(11) 35 (12) obtuse
(13) ✓ (14) <

2 (1) 500 000 (2) 1 , 2 , 3 , 4 , 6 and 12
(3) 4 (4) 7
(5) 15 (6) 40

3 (1) 1 612 (2) 24
(3) 26 (4) 9 480
(5) 3 249
(6) 12 = 2 × 2 × 3
18 = 2 × 3 × 3
L.C.M. = 2 × 2 × 3 × 3 = 36
(7) Its perimeter = (6 + 5) × 2 = 22 cm.
(8) Its area = 7 × 7 = 49 cm^2
(9) m (∠ C) = 180° – (60° + 40°) = 80°
(10) Draw by yourself.

13 Suez

1 (1) million (2) 2
(3) 90° (4) 1
(5) < (6) 450
(7) 4 (8) 20
(9) 40 (10) <
(11) even (12) square
(13) 500 (14) an isosceles

2 (1) length , width , 2
(2) hundred thousands
(3) 5 (4) 8 054 365
(5) 180° (6) 45

3 (1) 891 828 (2) 200 012
(3) The area = 6 × 6 = 36 cm^2
(4) 6 = 2 × 3
10 = 2 × 5
H.C.F. = 2
L.C.M = 2 × 3 × 5 = 30
(5) 14 910

(6) The area = 6 × 4 = 24 cm^2
(7) The order is : 9 765 , 69 458 , 585 321 and 2 436 587
(8) 31
(9) Draw by yourself.

14 Port Said

1 (1) 1 000 000 (2) 3 000
(3) 2 (4) 15
(5) 9 854 (6) 90

2 (1) 40 000 (2) 85
(3) 999 999 (4) 495
(5) 8 050
(6) hundred thousands
(7) 150 000 (8) 2
(9) right (10) 71 354 012
(11) pentagon (12) 0
(13) 12 cm. (14) 180°

3 (1) The order is : 41 328 , 42 138 , 42 183 and 43 182
(2) [a] 1 377 224
[b] 615 557

4 (1) 6 = 2 × 3
8 = 2 × 2 × 2
H.C.F. = 2
L.C.M = 2 × 3 × 2 × 2 = 24
(2) Draw by yourself.
[a] The length of $\overline{AC}$ = 5 cm.
[b] The perimeter of Δ ABC = 3 + 4 + 5 = 12 cm.

15 Damietta

1 (1) 800 (2) prime
(3) right (4) 3
(5) 7 (6) 3
(7) rectangle (8) 2 and 3
(9) = (10) isosceles
(11) hundred thousands
(12) 4 (13) 18
(14) 0

2 (15) 71 354 012 (16) 3 000
(17) 30 (18) $\overline{AB}$
(19) 102 349 (20) 20

3 (21) [a] 381 088 [b] 14
(22) The side length of the square = 20 ÷ 4 = 5 cm.
The area of the square = 5 × 5 = 25 cm^2
(23) 24 = 2 × 2 × 2 × 3
40 = 2 × 2 × 2 × 5
H.C.F. = 2 × 2 × 2 = 8
(24) Eman paid = 126 × 25 = L.E. 3 150
(25) [a] > [b] <
(26) The area of square = 5 × 5 = 25 cm^2
The area of rectangle = 2 × 3 = 6 cm^2
The area of the shaded part = 25 – 6 = 19 cm^2
(27) 8 = 2 × 2 × 2
12 = 2 × 2 × 3
L.C.M. = 2 × 2 × 2 × 3 = 24
(28) The order is : 413 528 , 421 538 , 421 583 and 431 582
(29) 60 , acute
(30) Draw by yourself.

16 Kafr El-Sheikh

1 (1) 3 000 000 (2) 12
(3) 6 (4) 59 042 063
(5) acute (6) 0

2 (7) 300 (8) right
(9) 3 (10) 240 000
(11) 4 (12) 3 dm^2
(13) 7 (14) 5
(15) > (16) square
(17) 2 (18) 100
(19) 6 (20) 7

3 (21) 1 218
(22) 12 = 2 × 2 × 3
16 = 2 × 2 × 2 × 2
L.C.M. = 2 × 2 × 3 × 2 × 2 = 48

(23) Draw by yourself.
(24) The area of the rectangle = 6 × 5 = 30 cm^2
The area of square = 3 × 3 = 9 cm^2
The area of the shaded part = 30 – 9 = 21 cm^2
(25) 11 544
(26) The number of floors = 192 ÷ 16 = 12 floors.
(27) 43 795
(28) [a] (1) ⊥ (2) // (3) ⊥
[b] C
(29) 1 845
(30) The area of the rectangle = 90 × 40 = 3 600 cm^2
The area of rectangle = the area of the square
The side length of the square = 60 cm.
The perimeter of the square = 60 × 4 = 240 cm.

17 El-Beheira

1 (1) 1 565 178 (2) 2
(3) acute (4) 30
(5) 9 cm. (6) 5 075 250

2 (7) 10 (8) 24
(9) 17 (10) zero
(11) diagonals (12) 5 and 3
(13) 8 millions (14) scalene
(15) 40 000 (16) 20
(17) > (18) 18
(19) 9 000 (20) 35

3 (21) 314 033
(22) 24 = 2 × 2 × 2 × 3
18 = 2 × 3 × 3
L.C.M. = 2 × 2 × 2 × 3 × 3 = 72
(23) 6 513
(24) 28 = 2 × 2 × 7
14 = 2 × 7
H.C.F. = 2 × 7 = 14

(25) Draw by yourself.
(26) 204
(27) Nada paid = 475 × 25 = P.T. 11 875
(28) m (∠ C) = 180° – (67° + 33°) = 80°
(29) The number of pupils = 798 ÷ 19
= 42 pupils.
(30) Draw by yourself.
The length of $\overline{AC}$ = 5 cm.

18 El-Fayoum

1
(1) 6 425 012 (2) >
(3) millions (4) 250 000
(5) 5 (6) 0
(7) 4 (8) 900
(9) 4 (10) 4
(11) isosceles (12) 180°
(13) 30 000 (14) 20

2
(15) 7 000 (16) 2
(17) 7 (18) 90
(19) 800 (20) 4

3
(21) 30 005 (22) 5 689 324
(23) 1 200 (24) 102
(25) The order : 4 millions , 4 001 769 , 4 031 769 and 4 170 069
(26) The number of pupils = 575 ÷ 25
= 23 pupils.
(27) The perimeter = 7 × 3 = 21 cm.
(28) The area of the square = 5 × 5 = 25 cm^2
The area of the rectangle = 2 × 3
= 6 cm^2
The area of the shaded part = 25 – 6
= 19 cm^2
(29) [a] 4 [b] DC
(30) Draw by yourself.

19 Beni Suef

1
(1) > (2) <
(3) even (4) 98 765
(5) 6 (6) 2
(7) 1 (8) 10
(9) 90° (10) =
(11) right (12) 12
(13) 641 000 (14) 100 375

2
(1) 1 , itself (2) 1 , 2 , 5 , 10
(3) length , 2 (4) 3 000
(5) 180° (6) hundreds

3
(1) [a] ⊥ [b] //
(2) Draw by yourself.
Δ XYZ is a right-angled triangle.
(3) 24 = 2 × 2 × 2 × 3
30 = 2 × 3 × 5
H.C.F. = 2 × 3 = 6
L.C.M. = 2 × 2 × 2 × 3 × 5 = 120
(4) [a] 2 405 478 [b] 297 786
[c] 101 [d] 19 900
[e] 1 068 776

20 El-Menia

1
(1) 2 (2) equilateral
(3) 10 (4) 15
(5) 60 (6) 123
(7) < (8) 5 000 001
(9) 400 000 (10) parallel
(11) 1 (12) 5
(13) 954 321 (14) 180°

2
(15) millions
(16) side length , 4
(17) rhombus , square
(18) 2 (19) 2
(20) 0

3
(21) 101 (22) 77 028
(23) 222 100 (24) 9 645
(25) 16 = 2 × 2 × 2 × 2
24 = 2 × 2 × 2 × 3
H.C.F. = 2 × 2 × 2 = 8
(26) Hazem paid = 26 × 725 = L.E. 18 850

(27) Draw by yourself.
[a] m (∠ C) = 180° – (60° + 70°) = 50°
[b] Δ ABC is acute-angled triangle.
(28) The area = 6 × 6 = 36 cm^2
(29) 12 = 2 × 2 × 3
18 = 2 × 3 × 3
L.C.M. = 2 × 3 × 3 × 2 = 36
(30) The perimeter = (7 + 3) × 2 = 20 cm.

21 Assiut

1
(1) 6 (2) 9
(3) 21 (4) 5
(5) 7 (6) 180°
(7) 8 (8) 1
(9) 12 (10) 25
(11) 2 (12) 7
(13) milliard (14) 15

2
(15) 4 000 (16) 653 210
(17) 5 000 000 (18) square , rectangle
(19) 40 578 (20) equal
(21) (3 + 7) 2 × = 20 (22) 9 183 828
(23) 7 392 (24) 200 012
(25) 428
(26) 60 000 , 70 000

3
(27) The area = 9 × 3 = 27 cm^2
(28) Draw by yourself.
(29) The area = 3 × 3 = 9 cm^2
(30) The number of pupils = 124 ÷ 4
= 31 pupils.

22 Souhag

1
(1) 2 (2) 100
(3) right (4) 20
(5) 0 (6) 8 000
(7) scalene (8) 180°
(9) 102 349 (10) 101
(11) 4 (12) >
(13) = (14) 621 054

2
(1) 15 538 (2) 43 036 007
(3) 1 (4) 40 cm.
(5) 500 000 (6) 60

3
(1) The order is : 2 547 216 , 2 561 748 , 2 778 136 and 2 900 374
(2) Draw by yourself.
The perimeter = 3 × 4 = 12 cm.
The area = 3 × 3 = 9 cm^2
(3) The price of one metre = 286 ÷ 26 = L.E. 11
(4) 8 = 2 × 2 × 2
12 = 2 × 2 × 3
H.C.F. = 2 × 2 = 4
L.C.M. = 2 × 2 × 2 × 3 = 24

23 Aswan

1
(1) 7 (2) 6
(3) 20 (4) 8 050
(5) = (6) 80 000
(7) 495
(8) square and rectangle
(9) millions (10) zero
(11) 10 (12) 24
(13) 20 (14) scalene triangle

2
(1) 102 345 (2) 7
(3) 30 (4) square , rectagnle
(5) 4 (6) 180°

3
(1) 120 = 2 × 2 × 2 × 3 × 5
(2) 12 = 2 × 2 × 3
15 = 3 × 5
H.C.F. = 3
L.C.M. = 2 × 2 × 3 × 5 = 60
(3) The greatest number is 975 420
The smallest number is 204 579
(4) The price of one metre = 648 ÷ 24
= L.E. 27
(5) Draw by yourself.
m (∠ B) = 180° – (45° + 75°) = 60°
Δ ABC is an acute-angled triangle.

(6) The side length of the square = 32 ÷ 4
= 8 cm.
The area of the square = 8 × 8
= 64 cm^2.

(7) Hazem paid = 26 × 725 = P.T. 18 850

(8) Its area = 12 × 9 = 108 cm^2.

(9) 22 976

(10) Draw by yourself.

24 South Sinai

1
(1) millions (2) 63 152 254
(3) 60 (4) 24
(5) 700 (6) 40 000
(7) an isosceles
(8) square and rectangle
(9) rhombus (10) 20
(11) 9 (12) 2
(13) 2 (14) <

2
(1) 1 000 000 (2) equal
(3) 4 (4) 30
(5) 2 (6) dividend , divisor

3
(1) [a] 9 191 828 [b] 461 879
[c] 4 806 [d] 2 002

(2) The sum of production
= 450 000 + 642 000 = 1 092 000 tons.

(3) 6 = 2 × 3
8 = 2 × 2 × 2
H.C.F. = 2

(4) Draw by yourself.

(5) The area = 9 × 12 = 108 cm^2.

(6) The side length = 16 ÷ 4 = 4 cm.

(7) Draw by yourself.
Δ ABC is an acute-angled triangle.

25 Matrouh

1
(1) 1 500 hundreds (2) 80 000
(3) 100 (4) odd
(5) > (6) 8 millions
(7) 4 675 933 (8) 5
(9) 105
(10) obtuse-angled triangle
(11) 4 (12) 7
(13) 10 572 000 (14) 0

2
(1) 1 000 000 (2) 4
(3) 400 000 (4) 180°
(5) 3 000 (6) 36 and 42

3
(1) [a] 20 [b] 1 800
[c] 11 544 [d] 43 795

(2) The rest = 4 420 – 500 = L.E. 3 920
The value of the instalment
= 3 920 ÷ 28 L.E. 140

(3) The greatest number is 975 420
The smallest number is 204 579
The difference between them = 770 841

(4) The price of one metre = 648 ÷ 24
= L.E. 27

(5) Draw by yourself.
The length of $\overline{AC}$ = 4 $\frac{1}{2}$